



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

HDI

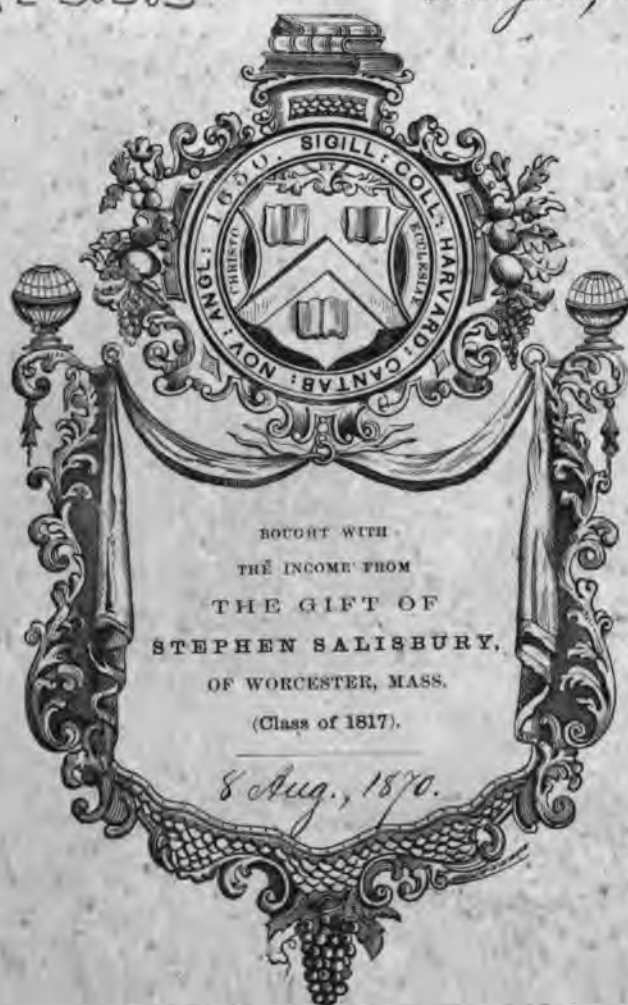


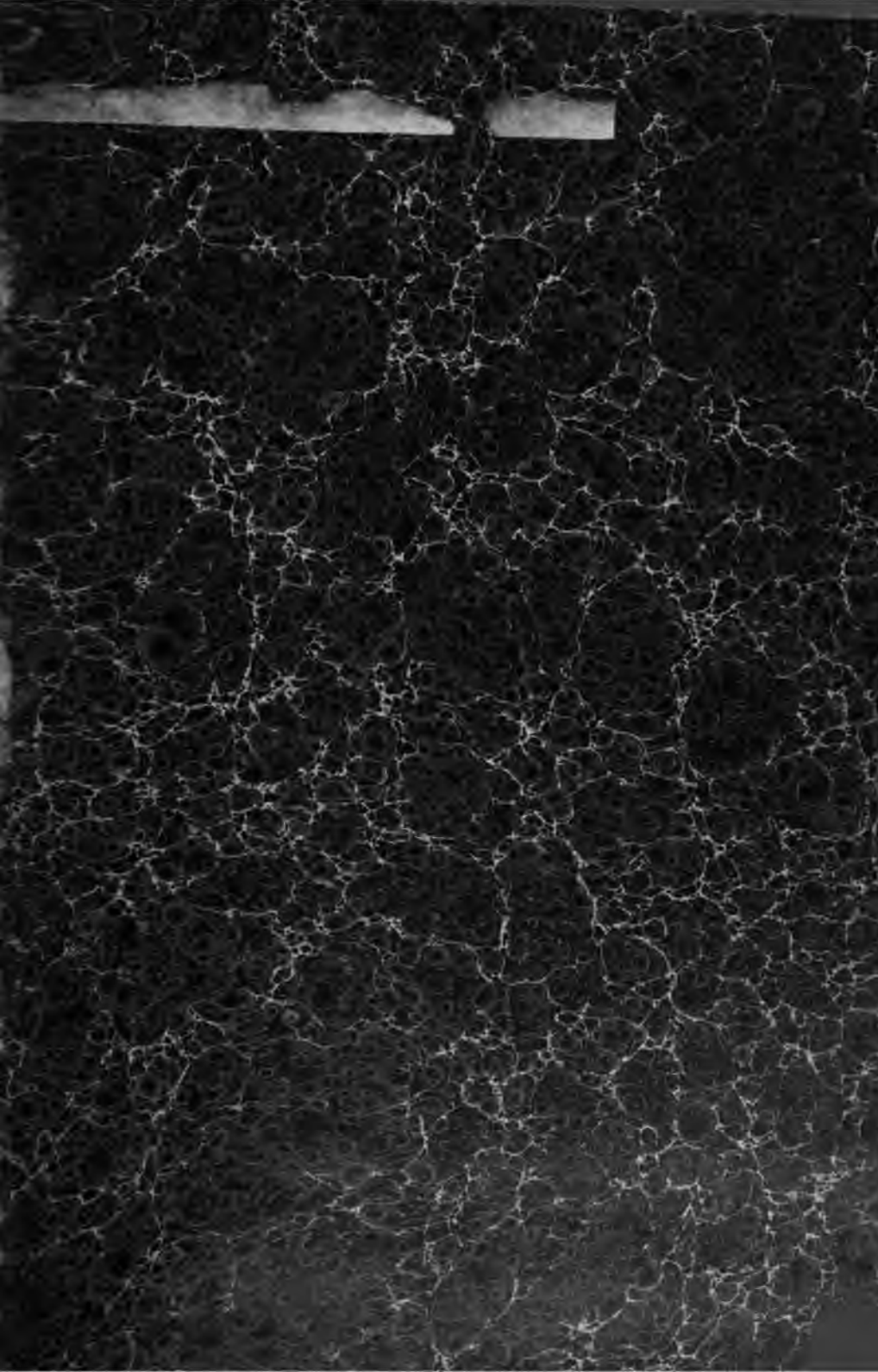
HW 2Q1Y S

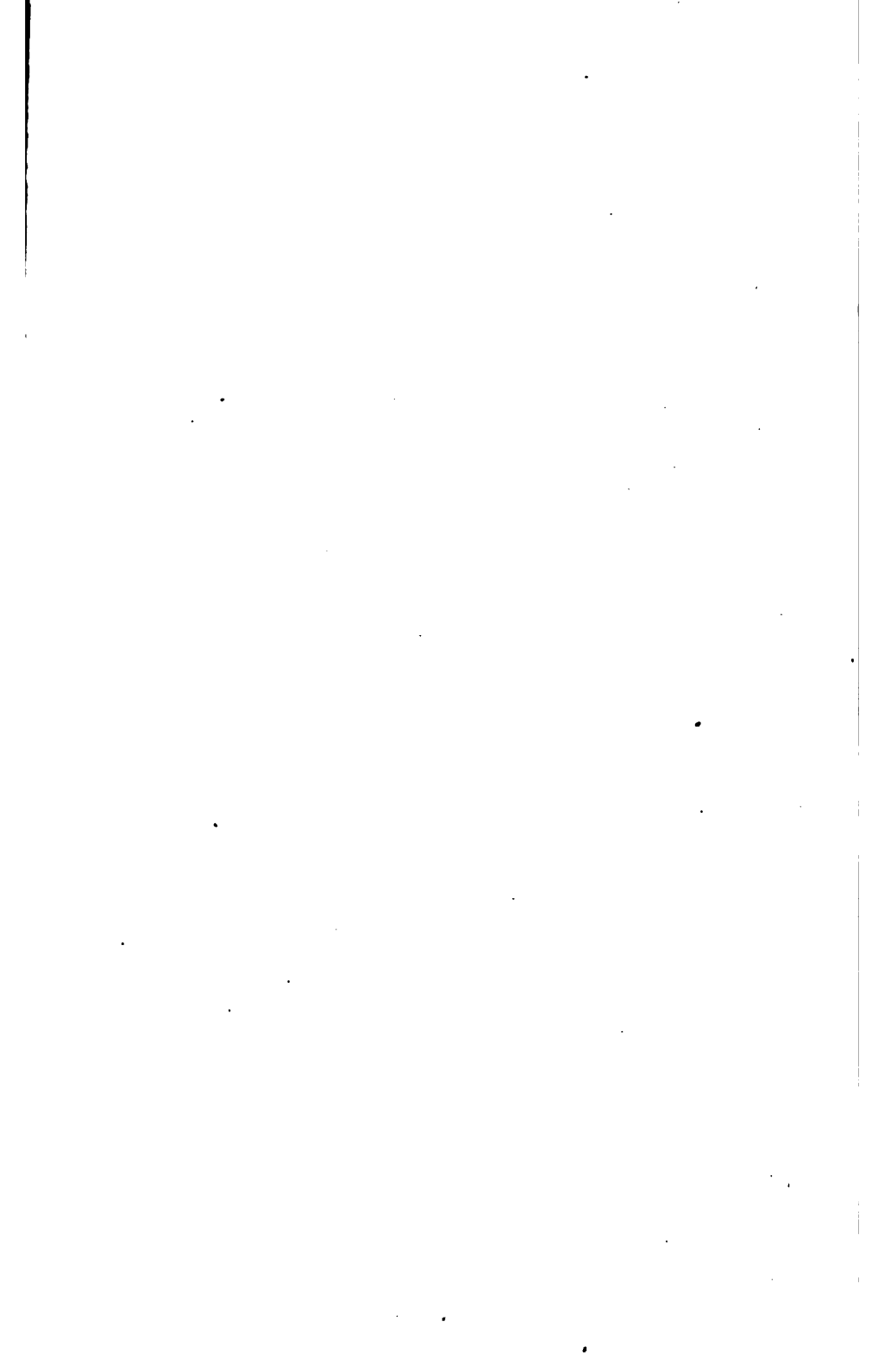


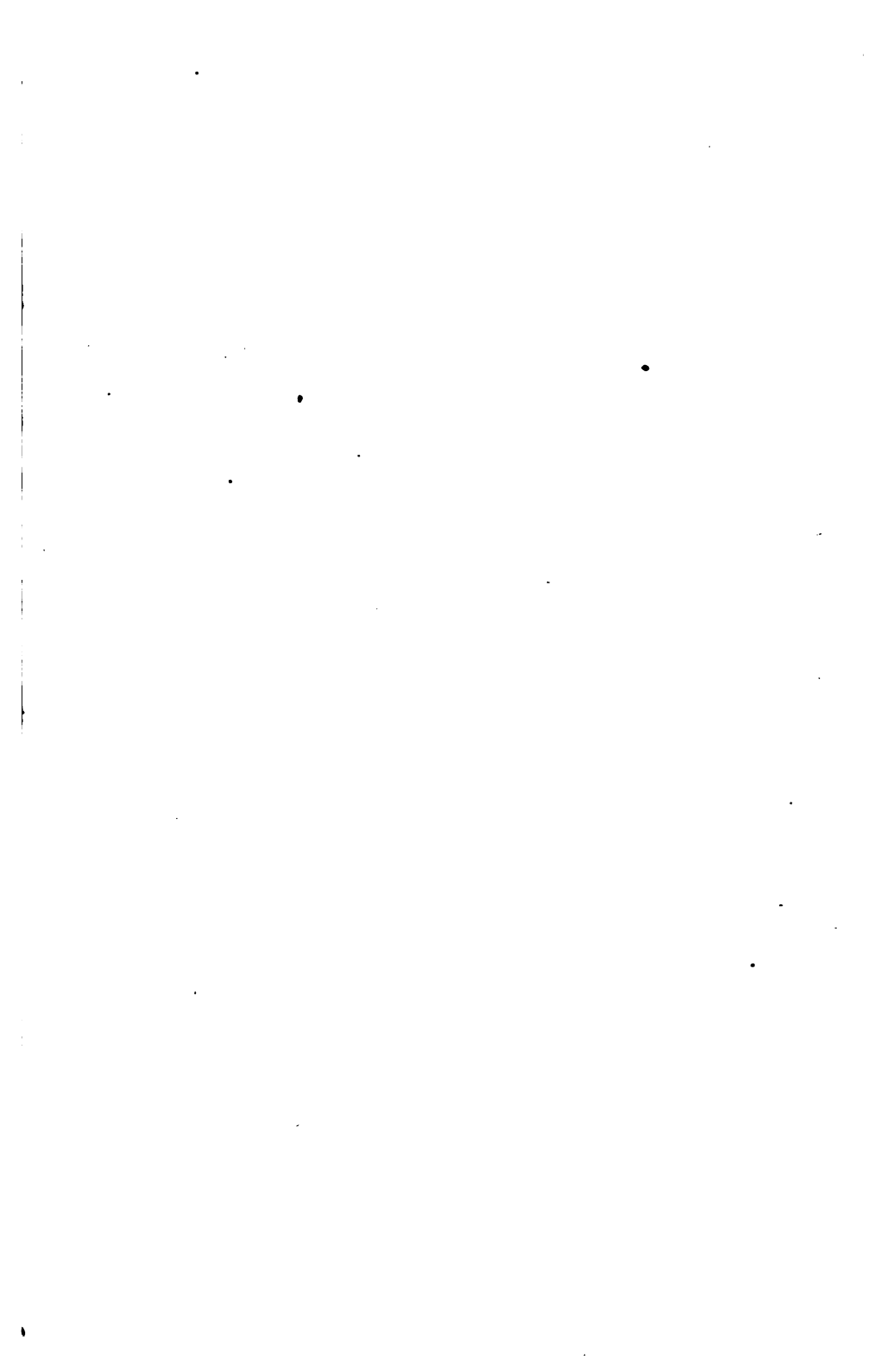
KE 38383

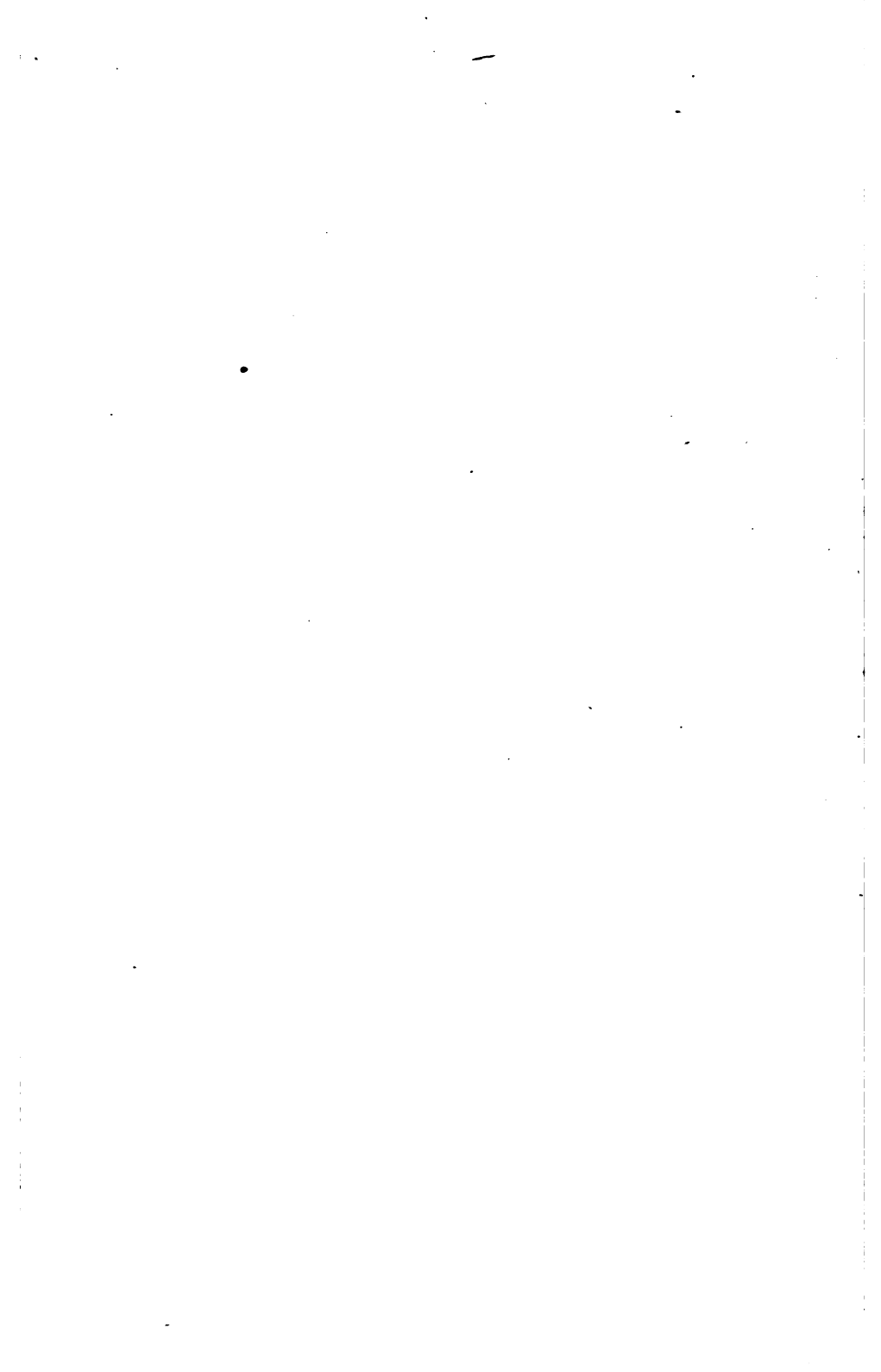
Bd. Jan., 1881.











AN INTRODUCTION

TO

GREEK AND LATIN ETYMOLOGY.

Cambridge :
PRINTED BY G. J. CLAY, M.A.
AT THE UNIVERSITY PRESS.

4.81

503

©

AN INTRODUCTION

TO

GREEK AND LATIN ETYMOLOGY.

BY

JOHN PEILE, M.A.

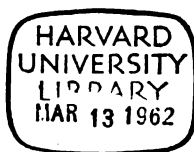
*FELLOW AND ASSISTANT TUTOR OF CHRIST'S COLLEGE,
FORMERLY TEACHER OF SANSKRIT IN THE UNIVERSITY
OF CAMBRIDGE.*

^CLondon and Cambridge:
MACMILLAN AND CO.
1869.

[All Rights reserved.]

KE 38383

~~5215.12~~



1870, Aug. 8.

\$

Salisbury Fund.

P R E F A C E.

THESE Lectures are the result of notes made during my reading in the last three or four years. As these notes increased, I thought that what had been very interesting to me might possibly have some interest for others, and therefore I put them into the shape of lectures which were delivered at Christ's College during the last May term, as one set in the "Intercollegiate" list. They are now printed with some additions and modifications, but substantially as they were delivered. Those who have studied the subject will see at once how much I have availed myself of the labours of others. I have endeavoured to state fully all my obligations: if I have ever omitted to do so, it has been through inadvertence. In the arrangement of the matter I have used my own judgment, as also on dubious points: but in general I have given nothing but what is certain: anything further would be out of place in a handbook for beginners, which is all that these lectures profess themselves to be. I am most indebted to Professor Curtius, a writer whose learning, insight, and admirable judgment, it is impossible to praise too highly: his *Grundzüge der Griechischen Etymologie*

has been constantly before me: I have certainly learnt more from it than from any one book which I ever read. His *Tempora und Modi* is also most valuable as an introduction to the history of the verb-formations: these results however (some of which have been since withdrawn) do not come much within the plan of this book, which deals with the phonetic rather than with the formative part of language. His little "Essay on the results of Comparative Philology in reference to Classical Scholarship" has been translated into English, but is now, I believe, out of print: it states briefly and forcibly the importance of these results to Greek and Latin scholars, and I have often quoted from it. Hardly less valuable for Latin than the works of Curtius for Greek are Corssen's *Aus-sprache Vokalismus und Betonung der Lateinischen Sprache*¹, and his *Kritische Beiträge zur Lateinischen Formenlehre*: in learning and accuracy these books are worthy rivals of the *Grundzüge*; though sometimes we seem to miss in them the master-hand. I have made considerable use of Leo Meyer's *Vergleichende Grammatik der Griech. und Latein. Sprache*: this author differs much in matters of detail and sometimes in principle from the other two, but his suggestions, and especially his full list of words, are very useful. I have sometimes availed myself of Professor Benfey's *Griechisches Wurzel-Lexikon*, and still more of his *Kurze Sanskrit Grammatik*, which is the model of a special grammar adapted to the use of a student of comparative philology: indeed it is to Professor Benfey that I owe my first introduction to this science, as well as almost all I know of Sanskrit: and I desire most gratefully to acknowledge here my debt to him, which is much greater than appears in this book. Ahrens' volumes *De Graecae Linguae Dialectis* are

¹ The second edition of this work is greatly enlarged and improved, but only the first volume has yet appeared: references to it are marked by the figure 2, e.g. r². 96.

well known as the standard work on the subject. Among works on general philology, I am most indebted to Schleicher's *Compendium der Vergleichenden Grammatik*: this is a most valuable summary of the results of comparative philology, and those parts which bear on the Greek and Latin languages would well repay translation, though they would lose by being separated from the parallel forms of other languages. I have made some use of the *Etymologische Forschungen* of Professor Pott, the most learned, ingenious, and dogmatic of etymologists: I have also availed myself of his treatise on *Doppelung* (Reduplication). Several suggestions are due to Pictet's *Origines Indo-Européennes*: and to different articles in Kuhn's *Zeitschrift*, and other periodicals. Bopp's Comparative Grammar relates principally to forms, and therefore has not been much used: but his main results, so far as they have been verified by later researches, have been assumed here, as they must be by all writers on the subject. My other slighter obligations will be mentioned in their place. It is hardly necessary for an Englishman to say how much he owes to Professor Max Müller.

I believe that none of the works I have mentioned have been translated into English, with the exception of Bopp's Grammar and Curtius' little Essay. Consequently they are so little generally known among us that it may be asked what they have done to make them worth our notice. Briefly then the value of works such as those of Curtius and Corssen is this: they have shewn how much may be accomplished by applying the method and results of Comparative Philology to particular languages. Comparative Philology gives us the ultimate forms of Indo-European roots and suffixes, sometimes of actual words, by putting together and comparing parallel forms in different languages. This work for all practical purposes is now accomplished. Even a Glossary of the

Indo-European speech has appeared at Göttingen. The results are ready for application to particular languages, to serve as the basis for new investigation, for which they are indispensable. But these results are not sufficient for the Greek or the Latin etymologist. Together with the general science of comparative philology, we require special sciences of the special languages. These must be studied for themselves, but in the light of the general science. Minute and patient investigation of the laws of each several language is needed now as much as ever; but it must be made in a wider spirit. Every language has varied from the prototype: and for the most part varied in its own peculiar way. There are some general laws which regulate change of sound in all languages: these are given by the general science. But there are other changes which are found only in one or two languages: and these must be carefully traced within the province of the particular language. Above all they must never be assumed in one language because they are found in another. A phonetic change is not necessary in Latin because it is found in Greek: or in Greek because it occurs in Sanskrit: though the changes of Sanskrit may throw, and actually have thrown, most valuable light on those of other languages. As I said above, each language must be studied for and in itself in the light of Comparative Philology: and this is just what Curtius and Corssen have done for Greek and Latin¹.

It may be asked whether we can arrive at certain results by this method. I have said that the comparative philologist, or the Greek philologist who works in the same spirit, puts together fact with fact. His method is inductive: and when his *data* are suf-

¹ How much may be done by a sound method even within one single language has been well shewn in Buttman's *Lexilogus*, which must long remain a standard work in spite of errors unavoidable at the time when it was written. If Buttman had lived later he would have been one of the first to acknowledge the excellence of a method which in spirit is identical with his own.

ficient, his conclusions are as certain as those of any other inductive science. Where the evidence is insufficient he only arrives at a certain degree of probability, just as in any other science. Thus sometimes we cannot discover the ultimate root to which, for example, some isolated Greek word is to be referred, because the words which seem to correspond in other languages are too uncertain, either as to form or as to sense; and we must have agreement in both before we can speak of a certain relationship. Sometimes the word before us points about equally to two roots, each equally possible phonetically: here we must be content to leave the point undecided, and forego the advantage of knowing the history of the word. Sometimes we find exceptions to well established rules—just as in any other science: here again we must wait for further knowledge. In all these cases we can only get a varying amount of probability. But these do not affect the proposition that Comparative Philology—general or special—is a science whose conclusions vary from being certain to being only probable, exactly in accordance with the amount of evidence.

This being so, the way in which etymological questions are often treated in England is surely much to be regretted. Many of our scholars betray no knowledge whatever of the progress which has been made in this science. Some of those whose subject leads them most to these questions deal with them as though there were no such science at all, but to etymologise correctly were the luck of the best guesser. Thus one who is deservedly placed in the foremost rank of Cambridge scholars, Mr F. A. Paley, writes in the preface to his edition of the *Iliad* (page x.), "In matters where we can hardly go beyond conjecture, some licence may be allowed in speculating on the origins, meanings, and connections of words."

Accordingly, Mr Paley gives in his notes numerous derivations

which he candidly says are not "put forward with any desire to dogmatise," but which are yet purely arbitrary, often with no evidence derived from Greek or other languages, and with no hint of a standard by which their probability can be judged. Indeed, if I understand him right, Mr Paley implicitly denies such a standard in a note in which he illustrates his meaning. He there says:

"Mr Gladstone, for instance, thinks *κῆλον*, 'an arrow,' is connected with *telum*, and *φῆρες* (*Il.* i. 268) with *ἔρα*, *terra* ('Studies,' i. pp. 510, 575). I think that *κῆλον*, with *κᾶλον*, "wood," and some other kindred words, is from the digammated root of *καίω* and *φῆρες* from an ancient word *Fap* or *Fηρ*, the Latin *Vir*, the English *War*; and we are both entitled to hold our own opinions."

The last sentence breathes a most liberal spirit: I am sorry that I must emphatically protest against it. I take it for granted that Mr Paley does not merely mean that all men are entitled to hold their own opinions on etymology in the same sense in which I am entitled to hold that the sun goes round the earth, as no doubt I am; but if I taught so, I should be thought an unsafe guide. The meaning surely is, that there is no reason, apart from the judgment of the individual holder, why one opinion should be more true on these points than any other—no external standard to determine their relative probability. This is a new application of the old *πάντων μέτρον ἄνθρωπος*. Mr Paley indeed is here unjust to himself. In both cases his etymology is many times more probable. To say that the chances are a thousand to one against *κῆλον* being connected with *telum* does not quite measure the improbability; because, so far as I know, *t* is never the Latin representative of *k* in the original or in any derived language¹.

¹ The change of the termination *-cio* into *-tio* is not in point: the *c* passes into *t* through the assimilating influence of the *t* (*y*); and therefore this could be no proof of a simple substitution of *t* for *k* (*c*). Besides it only appears many centuries later.

If some one said that he had found a belemnite in the coal-measures, I think that geologists would wish a good many more belemnites to be discovered before they believed much in the finding of that particular one; not that the thing is physically impossible, but because all experience has shewn that belemnites are not found in so old a stratum. My feeling is just the same. I want a good many more indisputable cases of the change of *k* into *t* into Latin before I believe that *telum* has anything to do with *κῆλον*. Mr Paley's derivation of *κῆλον* from KAF is quite possible phonetically, though I should rather have expected the final V (F) to have passed into U before the soft λ: and as to the sense, if *κῆλον* first meant firewood, as it must have done if it comes from KAF, it seems odd that it should come to mean an "arrow." Now since there is in Sanskrit a noun *çal-yam* meaning an "arrow," which can be derived by regular Sanskrit phonetic change from a possible root KAL: and since this same KAL would appear also perfectly regularly in the Latin *cel-lere*, "to strike;" I prefer to derive, as is also quite in accordance with rule, *κῆλον* from the same root, as suiting better both in form and sense¹. But I quite concede that between the two derivations the question is one of probability: the forms in other languages parallel to *κῆλον* are too few to make the derivation here given at all certain. I cannot indeed allow the same of Mr Paley's derivation of *φῆρ*, which I hold to be phonetically impossible: φ so far as I know is never a substitute for original V, though in some excessively rare cases (as *σφε* from original *sva*) it may have been produced by assimilation, which is a very different matter².

¹ See Curtius, *Griechische Etymologie*, p. 137.

² I know that Dr Donaldson (*New Crat.* § 110) says "it is clear that F must originally have been the aspirate of the labials, namely *bh* or *hb*." But he never proves it: and it is certain, by comparison of the different Indo-European languages, that F represents original V, and that alone. See pp. 78—81.

In other cases however Mr Paley suggests without any real proof a derivation of his own (as I believe) for words which can be certainly proved to come from a different root. Thus in his note to *Il.* xi. 1 he says, "the root of 'Hῶς is *āF*, the same as in *ἀήρ*, *ἀήρης*, and connected with *FaF* (*φᾶος*)."¹ I leave this last terrible combination of sound—which would appear in English letters as "waw," and is scarcely adapted, as all the primitive roots were, to human organs—only saying that *φᾶος* can be safely traced from *BHAV*, a lengthened form of *BHA*, "to shine;" and proceed to the supposed *āF* in *ῆώς*, where Mr Paley assumes, as I think he always does, that the letter which he rightly supposes to have fallen out between *η* and *ω* must have been the digamma. But there is not the smallest ground for such an assumption; and in this case it can be demonstrated that the letter so lost was not *F* but *σ*. The simpler form of *ῆώς* is preserved in the Aeolic *αῦωσ*. The "morning" in Sanskrit is *ush-as*, in Latin *Aurora*. Do these words, which have the same meaning, agree in form also; not of course judged by mere identity of sound, which is no guide at all, but according to the phonetic laws of their respective languages? They do; and all point distinctly to the root *US* "to burn." This appears as *USH* in Sanskrit; from which *ushas* is regularly formed, with no vowel-modification. The Graeco-Italian people raised the vowel by regular process to *au*², and formed *ausos*: which received no further increase in Greek, but in Latin a secondary noun was formed from the primary one, that is, *ausos-a*. Now both Greeks and Italians, as is well known, disliked the sound *s* between two vowels: the Greeks generally dropped it, and so got here *αῖ(σ)ωσ*³: the Latins changed it to *r*, and made *Aurora*³: the verb appears as *uro*. Every change here is in strict accordance with ascertained

¹ See pp. 119—122.² See p. 232.³ See p. 238.

laws; the words compared agree both in sense and form; and more parallel forms could be given from the Teutonic and the Lithuanian¹. What more evidence can be required for a certain derivation? And in the face of facts like these, to state positively (whether dogmatically or not), that "the root of 'H \acute{o} s is aF," is surely not likely to advance our knowledge of etymology; an object which I am certain Mr Paley has warmly at heart. No one at Cambridge has written so much on the subject. And it is because the errors of our best men are most misleading; because I cordially admire Mr Paley's taste and learning; because I thoroughly sympathise with his endeavours to widen the reading of our students here, that I write as I have done. I have no choice. If Mr Paley's view (as I understand it) be true, then my book has no reason for existence. My sole object is to lay down certain definite principles of change in Greek and Latin, which must be our constant guide in etymology. Mr Paley apparently in theory, and certainly in practice, ignores these principles.

By the recent changes in the Classical Tripos, "Philology" has become the subject of a separate paper. The term is rather general; but it has been defined, at least for the present, by the books which have been recommended by the Board of Classical Studies. They include two distinct subjects; first, scientific etymology, secondly, the higher criticism of the usage of the Greek and Latin languages. The latter subject has always been to some extent studied among us; indeed, accurate knowledge of the usages of these two languages, within certain fixed limits of time, has been the one necessary result of our Cambridge training in our best men. Now our students are to be required to know something more—something of the history of these languages. Whether such study will be beneficial to all minds is perhaps

¹ See Curtius, *Gr. Et.* p. 358.

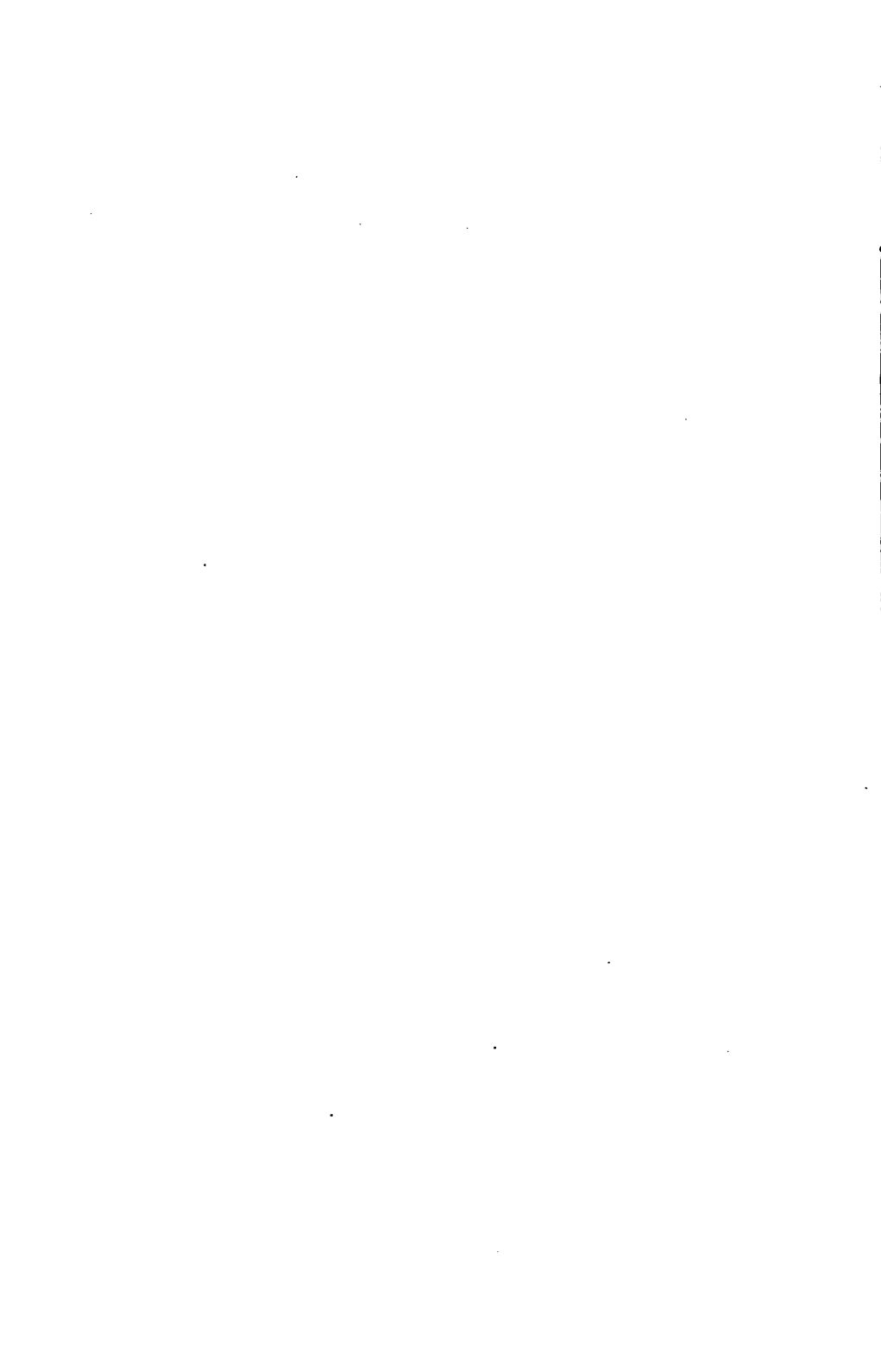
doubtful; but at all events it is something to ensure that no man shall pass three years and a half at Cambridge without increasing in any respect the stock of ideas which he brought from school.

If the new scheme for the Tripos prove successful, it seems probable that some change will be necessary in the teaching of grammar in schools. Those boys who are intended for Cambridge must be taught not merely the facts of grammar, but as far as possible the reasons for them. No doubt it is difficult in a book intended for schools to arrange the matter in such a way as to satisfy the logic of grammar, without being etymologically misleading; an arrangement of the nouns and verbs as found in actual use rarely coincides with a historical classification of them. Still much has been done of late to remove from grammars statements which gave an absolutely false view of the origin of the forms; and more might yet be done. I think it is not impossible that a Greek or a Latin grammar might be written on the principle of Prof. Benfey's *Kurze Sanskrit Grammatik* already mentioned, which should give the declensions, &c. arranged as far as possible with reference to their formation and history; while that history might be more fully developed in notes in smaller print, which could be read when the boy was ripe for them. These notes should contain nothing which is merely speculative, only well ascertained facts; and such a work could at any time be brought up to the existing state of linguistic science.

I have only to say in conclusion, that I shall gladly welcome the correction of any errors which may be found in this book. I fear that there may be many, but I hope that they will be found in details rather than in principles. My excuse for them must be that these Lectures were written at different times—some of them two years ago—and indeed almost entirely at such intervals as

I could secure between other work. I have intentionally omitted some rather rare and unimportant changes, because within the limits which seemed desirable for an introductory work, it would have been impossible to describe them without giving them an undue relative prominence.

TRUMPINGTON, Oct. 18, 1869.



CONTENTS.

(LECT. I.) THE PRINCIPLE OF PHONETIC CHANGE.

Nature of phonetic change, 1. Its cause, 3. Results of this law of change, 4. Peculiar causes of different changes in different languages, 6. The importance of this principle, 7. Apparent exceptions, 9. Different theories upon this subject, 11. Note on the derivation of Latin words from Greek, 14.

(LECT. II.) THE RELATIONSHIP OF THE INDO-EUROPEAN PEOPLES.

Our starting point the Indo-European language, 17. Classification of the Indo-European people, 18. Their degrees of relationship, 20. Is this original people properly called Aryan? 22. Importance sometimes erroneously given to Sanskrit, 23. What is a "root"? 26. Connection between roots and ideas, 27. Definition of a root, 28. Each language has its own roots, 29.

(LECT. III.) THE INDO-EUROPEAN ALPHABET.

The original alphabet, 31. Extension of the vowels, 32. This increase of sound was qualitative not quantitative, 33. Consonantal change was regularly phonetic, not dynamic, 35. Examples of Indo-European alphabets, 37.

I. Momentary sounds, 37—67.

1. Hard momentary sounds, K, 37. T, 40. P, 44.
2. Soft momentary sounds, G, 47. D, 50. B, 53.

(LECT. IV.) 3. Aspirates, 55. Did the original language possess hard as well as soft aspirates? 56. GH, 60. DH, 61. BH, 64.

Possibility of some of our words being older than the Indo-European roots, 66.

II. Protracted sounds, 67—86.

1. Nasals, N, 68. M, 70. Composition of the Indo-European suffixes, 72.
2. Spirants, 73. Y, 75. S, 76. V, 78.
3. Liquids, 81. R, 82. L, 85. Concluding remarks, 86.

Note on the Indo-European division of the year, 89.

(LECT. V.)

DYNAMIC CHANGE

Dynamic change briefly considered in order to distinguish its results from those of Phonetic change, 91. The principal methods—Reduplication and Vowel-Intensification: possibly also Nasalisation, 93.

REDUPLICATION.

Reduplication the oldest and simplest method, 95. Evidence of this derived from the language of savages and of children, *ib.* General traces of the principle: Reduplication in imitative words, and in alliteration, 97. Slight traces in the formation of superlatives, 100. Regular formation of frequentatives or intensives, 101. Employed to distinguish protracted from momentary action, 108.

VOWEL-INTENSIFICATION.

The intensified vowel-forms differ in different languages, 109. Most recognisable in Sanskrit and most regularly employed there, 110. Vowel-scales in Gothic, 112; and in Lithuanian, 113; in Greek and Latin, *ib.*

(i) The A-scale, 113—118.

Difficulty of distinguishing the two steps, 114. Different methods of distinguishing them in Greek, 115; especially the employment of the existing division of A into *a*, *e*, *o*, 115. Traces of the same method in Latin, 116. Advantage of the different symbols for long vowels in the Greek, 117. Quantitative increase, *ib.*

(ii) The I-scale, 118—121.

Occurrence of *ai* as an intensified form of *i*, 119.

(iii) The U-scale, 121—122.

U intensified to *au*.

(LECT. VI.)

PHONETIC CHANGE.

Phonetic change due to two causes—Weak Articulation and Indistinct Articulation, 123. Nature of the changes caused by Weak Articulation, *ib.* Latin—not Indo-European—letters of the Greek and Latin alphabets, 127. Pronunciation of the vowels, 128.

I. VOWEL-CHANGE, 129—214.

I. Substitution, 129—175. .

1. Splitting of the A-sound (A = *a*, *e*, *o*), 129—138.

Found throughout Europe, 130. History of the change from A to *e*, 131. The change from A to *o* less frequent before the Graeco-Italian period, 133. Application of the new vowels, 134. Especial gain of the Greek language hereby, 135. Traces of similar division of *Ā*, 137.

(LECT. VII.)

2. Greek Diphthongs (AI = *ai*, *ei*, *oi*; AU = *au*, *eu*, *ou*), 139—149. Diphthongs were originally double sounds, 139. History of the change of dissimilar diphthongs in Greek, 140. Tendency to drop the second vowel, the first being sometimes modified, 141. Greek *ai*, 142. Greek *ei*, *ib.* Greek *oi*, 143. Greek *au*, *ib.* Greek *ou*, *ib.* Greek *eu*, 144. Diphthongs with first vowel long, *ib.* Similar diphthongs, *ib.*
3. Latin Diphthongs (AI = *ai*, *ei*, *oi*; AU = *au*, *eu*, *ou*), 149—157. Latin *ai*, 149. Latin *ei*, 150. Latin *oi*, 153. Latin *au*, 154. Latin *eu*, 156. Latin *ou*, 156.

(LECT. VIII.)

4. Weakening of U in Greek (U = *upsilon*), 158.
5. Further Vowel substitution in Greek (sporadic), 159—161.
 - (i) Weakening of A to *i*, 160.
 - (ii) Weakening of A to *u* 161.
 - (iii) Weakening of U to *i*, 161.

6. Further Vowel substitution in Latin, 162—175.

Peculiar weakness of the Latin vowel-system, 162. Contrast between the Greek and the Latin, 163.

- (i) Weakening of formative syllables, 164.
- (ii) Weakening in composition, 169—173. (*a*) of the first number of the compounds, 169; (*b*) of the second, 170.
- (iii) Weakening in reduplicated forms, 173—175. (*a*) of the reduplicated syllable, 173; (*b*) of the radical syllable, 174.

(LECT. IX.)

Vowel change modified by external causes—hardly at all in Greek, but frequently in Latin, 176. Principle of Assimilation and Dissimilation, 178.

II. Assimilation, 179—187.

1. Vowel assimilation caused by consonants, 179—185.

- (i) The vowel *u*, 179.
- (ii) The vowel *e*, 182.
- (iii) The vowel *i*, 183.

2. Vowel assimilation caused by vowels, 185—187.

Apparent influence of the vowel *i*, 187.

III. Dissimilation, 187—190.

Less frequent in its operation; acts principally as a bar to further change, 188.

(LECT. X.) IV. Loss, 191—214.

1. Loss of Greek vowels, 191—193.

Probably produced by greater freedom of the accent at an earlier period, 191.

2. Loss of Latin vowels, 193—214.

Loss of *a*, 194; of *o*, *ib.*; of *u*, *ib.*; of *e*, 195; of *i*, 196; *i* is especially lost in compounds, 198. Are these lost vowels those of the unaccented syllables? 199. Common law of accentuation, 200. Accent depends on the quantity of the penultima, 201. Re-action of accent upon quantity, 202. Cases which contradict the common law, and can only be explained by an older different one, 203. Accentuation in other languages, 204. Middle stage in Latin between a vowel fully sounded and entirely lost, 206. Loss in the final syllable arising from its never being accented, 208—214. Loss in quantity, 209. Loss in quantity when the final consonant was lost, 210. Loss in originally final vowels, 212. Absolute loss in the final syllable, wholly or partly, 213.

(LECT. XI.)

II. CONSONANTAL CHANGE, 215—280.

Superiority of the Greek over the Latin thus far manifested, 215. Greater strength of the Latin consonants, 216. General rules to determine the relative strength of the consonants, 217. Momentary sounds stronger than protracted, *ib.* Hard sounds stronger than soft, each in its own class, 218. Unaspirated sounds stronger than the corresponding aspirates, *ib.* The gutturals the strongest of the different classes, 219. General rules hardly possible for protracted sounds, 221. Among the nasals *m* may be stronger than *n*, *ib.* Of the spirants, *y* is the strongest; *h* is the weakest in Greek, *ib.* In Greek and Latin *s* is stronger than *r*, *ib.*

I. Substitution, 222—247.

1. Change of hard letters to soft, 222—226.

Change of K to γ and g , 222, 223. Peculiar change of the hard guttural in Latin, 223. Change of T to δ and d , 224. Change of P to b , 225.

2. Further substitution for momentary sounds, 226, 227.

Change of D to l in Latin, 226. Change of D to r , 227.

3. Substitution for Spirants, 227—240.

A. Greek substitutes for the Spirants, 227—236.

(a) Changes of Y in Greek, 228—230.

(i) $Y=i$, 228.

(ii) $Y=e$, 229.

(iii) Y =the rough breathing, 229.

(iv) Y is lost, *ib.*

(b) Changes of S, 230—232.

(i) $S=\sigma$, 230.

(ii) S =rough breathing, *ib.*

(iii) S is lost, 232.

(c) Changes of V, 232—236.

(i) $V=F$, 232.

(ii) $V=v$, 233.

(iii) V =rough breathing, 234.

(iv) $V=\beta$, *ib.*

(v) $V=\mu$, 235.

B. Latin substitutes for the Spirants, 236—240.

(a) Changes of Y in Latin, 236—237.

(i) $Y=i$, 236.

(ii) Y is lost, 237.

(b) Changes of S, 237—239.

(i) $S=s$, 237.

(ii) $S=r$, 238. Old Latin and Italian Z, 239.

(iii) S is lost, *ib.*

(c) Changes of V, 239, 240.

(i) $V=u$, 239.

(ii) V is lost, *ib.* V not= m , 240.

(d) Changes of the Aspirates in Latin, 240—247.

The Latin aspirate f , 240. F represents original BH and DH at the beginning of a word, 241. In Latin the h was commonly dropped in the middle of a word, 242. Changes of GH, 244. The aspirates when initial pass into

breaths, when medial into soft letters, *ib.*
 Explanation of the appearance of the soft
 letters, 245.

(LECT. XII.) II. Loss, 248—261.

1. Loss of aspiration in Greek, 248.
2. Loss of one or more out of a group of consonants, 250—261.
 Possible origin of these groups, 250.
 - (i) Initial loss ; principally of S and V both in Greek and Latin, 251. Further loss in Latin, 253. Loss of initial C when standing alone, 254.
 - (ii) Medial loss : hardly found in Greek, 255 ; common and irregular in Latin, *ib.*
 - (iii) Final loss, 256. Monotony of consonantal terminations in Greek, 257. Greater range in Latin, 259. Loss of final *s*, *ib.* Loss of final *m*, 260. Loss of final *t*, 261.

(LECT. XIII.) III. Assimilation, 262—279.

1. The Greek Aspirates, 262—266.
 Pronunciation of the Greek Aspirates, 263. Probably they were not sounded as Spirants, *ib.* Arguments to prove they were really aspirate-sounds, 264.
2. General rules of Assimilation in Greek, 266—274.
 - A. Complete Assimilation, 266—271.
 - (i) Assimilation of the first sound, 267.
 - (ii) Assimilation of the second sound, *ib.*
 - (iii) Modification of both sounds when the first is a hard guttural or dental, 268. There is no such change of a labial, 270. Change of a soft guttural or dental, 271.
 - B. Incomplete Assimilation, 272—274.
 - (i) "Euphonic" changes, 272.
 - (ii) Changes caused by nasals, *ib.*
 - (iii) Changes of nasals, *ib.*
 - (iv) Change of T to *σ*, *ib.*
 - (v) Change of *θ* to *σ* (Laconian), 273.
 - (vi) Changes of *v*, *ib.*
 - (vii) Other exceptional forms, *ib.*
3. General rules of Assimilation in Latin, 275—279.
 - A. Complete Assimilation, 275, 276.
 - (i) Assimilation of the first letter, 275.
 - (ii) Assimilation of the second letter, *ib.*
 - (iii) Modification of both sounds, *ib.*

B. Incomplete Assimilation, 276—279.

- (i) "Euphonic" changes, 276.
- (ii) Changes caused by nasals, *ib.*
- (iii) Change of *t* to *s*, *ib.* Assimilation of *c* and *t* a later change, 277.

IV. Dissimilation, 279, 280.

- 1. Change of dentals, 279.
- 2. Loss of aspiration (Greek), and of initial reduplicated consonant, *ib.*
- 3. Interchange of *-aris* and *-alis*, 280.

(LECT. XIV.)

INDISTINCT ARTICULATION.

Effect of want of clearness in pronunciation, 281—310.

1. Labialism, 283—289.

Change of *K* to *π* and *p*, 283. Possibility of this change, *ib.*
Caused by parasitic *v*, 285. History of Latin *Q*, 287.
Change of *G* to *β* and *b*, 288. Change of *GH* to *φ*, 289.

2. Dentalism, 290—293.

Change of *K* to *τ*, 290. Change of *G* to *δ*, 292. Change of *GH* to *θ*, *ib.* Change of *D* to *b*, *ib.*

3. Parasitic *d* before *y* or *i*, 293—298.

Y with parasitic *δ* appears

- (i) as *ζ*, 294;
- (ii) as *δ*, 295;
- (iii) as *δε*, *ib.*;
- (iv) as *δ*, *ib.* Estimate of the probability of these changes, 297.

4. Parasitic *y*, 298.

5. Aspiration, 299—304.

Involuntary aspiration of hard letters found in Sanskrit and in Greek, 299. No certain examples of aspiration of soft sounds, 300. Aspiration in Greek and Latin at the beginning of a word, 301.

6. Auxiliary letters, 304—310.

(a) Vowels, most common in Greek, 304—309.

- (i) Initial vowels, 305. Very rare before an explosive sound, 306.
- (ii) Medial vowels, *ib.* The "connecting vowel," 307. Auxiliary vowels in Latin, 308.

(b) Auxiliary consonants, 309.

Conclusion, 310.

EXPLANATION OF SYMBOLS.

In Sanskrit words, *ch* and *j* denote the same sounds as in English.

ç denotes the palatal sibilant.

ñ „ palatal nasal.

m̐ „ anusvāra or “after-sound”.

In Lithuanian words, *ũ* denotes *o* followed by weak *a*.

ą &c. denotes vowels followed by a supposed nasal.

ž denotes weak *j*.

sz denotes *sch*, which sound in Slavonic words is denoted by *š*.

ERRATA.

Page 8, line 12,	for	<i>dūmi</i>	read	<i>dūmi</i> .
— 11 — 24 —	dialect	—	—	dialects
— 46 — 16 —	weal	—	—	meal
— 47 — 27 —	Lith.	—	—	Slav.
— 53 — 26 —	<i>bleja</i>	—	—	<i>blejq.</i>
— 60 — 14	dele	<i>vēgōs</i>		
— <i>ib.</i> — <i>ib.</i>	for	<i>vez-imas</i>	read	<i>vezimas</i>
— <i>ib.</i> — 15 —	five	—	—	four
— <i>ib.</i> — 26 —	<i>zole</i>	—	—	<i>žole</i>
— 63 — 26 —	<i>dūsa</i>	—	—	<i>duša</i>
— 69 — 13 —	<i>snegas</i>	—	—	<i>snēgas</i>
— <i>ib.</i> — 19 —	<i>zēma</i>	—	—	<i>žēma</i>
— 75 — 8 —	ζύγος	—	—	ζυγόν
— 76 — 16 —	<i>bhūyañs</i>	—	—	<i>bhūyañs</i>
— 110 — 6 —	<i>Vṛiddhi</i>	—	—	<i>Vṛiddhi</i>
— 118 — 28	after “ <i>εῖκα</i> for <i>ἑῖκα</i> ,”	add—	See however	page 233.
— 132 — 8	for	<i>aszūtni</i>	read	<i>asztūni</i> .
— 134 — 1 —	—	ὀκτώ	—	—
— 135 — 15 —	—	ἐκτα	—	ἐκτd.
— 146 — 24 —	—	e	—	η.
— 207 — 16 —	—	<i>dēxtera</i>	—	<i>dextēra</i> .
— 230 — 19 —	—	στάρως	—	στάρός
— 231 note, line 2	for	more	—	mere
— 237 margin —	<i>S=s</i>	—	—	<i>S=s</i>
— 259 margin —	<i>finals</i>	—	—	<i>final s</i>

INTRODUCTION TO GREEK AND LATIN ETYMOLOGY.

LECTURE I.

THE PRINCIPLE OF PHONETIC CHANGE.

THE principal subject of these lectures will be the Laws of *Nature of* Phonetic Change in Greek and Latin. Probably the term *phonetic change.* will require explanation. Let me illustrate what I mean by an example or two.

Almost any word will serve our purpose. Take the Greek verb *δίδωμι*, and analyse it. Beginning with the last syllable *μι*, we have a combination of sound, which a little comparison with other words in Greek or other languages (Sanskrit and Lithuanian) will convince us, denotes the pronoun of the first person "I." This comparison will shew us that the syllable is sometimes reduced to the mere consonant *m*; thus we have in Latin *sum*, *inquam*; and if we observe that the 1st person singular of the imperfect in Latin (e.g. *fereba-m*) compared with the same person in Greek (*ἔφερον*) always shews an *m* in the one language by an *ν* in the other,

2 THE PRINCIPLE OF PHONETIC CHANGE. [LECT.

we shall conclude that for some reason or other the Greeks could change this older *m* into a later *ν*. But further, by comparison, we shall see reason to believe that this *μ* of the Greeks is not the oldest form of the syllable; that as it sank into *m* or *n*, so it had previously descended from an older form *ma*: I say "descended," for it is clear to any one who attempts the sounds, that *a* is a fuller and stronger sound than *i*. One piece of this evidence is the termination of the 1st person plural, which is *μες* in (Doric) Greek, *mus* in Latin, but *mas* in Sanskrit (a form which a probable analysis explains as *ma* + *sa* or *I* + *he*, i.e. *we*; *tas* is *ta* + *sa* or *thou* + *he* = *ye*); and as we shall find that in Greek *ε* often comes from *a*, and in Latin *u* from *a*, but not *vice versâ*, we shall infer (from this and other indications which I have not time to dwell upon more) that this *μ* is traceable to an older and stronger form *ma*. But—and this is the point I want you to observe—it is clear that the change of sound was not intended to imply any change of meaning; *ma* meant *I*, and the meaning was kept by the weakest and most degraded form of the syllable; not of course that the Greek who said *ἔφερον* was *conscious* every time that the *ν* had originally been the personal pronoun; the pronoun had sunk with the lapse of time into a mere grammatical suffix; but *ἔφερον* still signified "I carried," and conveyed the same idea to the hearer of that day, as when the words "there-carry-I" established their claim to be selected out of many others which would have done as well, or nearly as well, to express the action of carrying in past time. Here then, I repeat, the new sound was not meant to convey a new meaning.

Let us now take the second syllable *δω*. Here we have long *ο*. But we have *δο-σις*, *δοτηρ*, even *δι-δο-μεν* in the first pers. plur.; and if we look at similar verbs *ιστημι*, *τιθημι*, we shall see the same long vowel only in the sing. of the verb. We shall conclude therefore that for some reason this vowel

became lengthened in these three persons from a simpler form $\delta\alpha$, which conveys the simple idea of giving. Here we shall at present be in some doubt whether any change of meaning was thereby expressed. Let us pass to the first syllable where we shall find the explanation more easily. First of all a comparison with the Sk. *dadāmi* will shew us that the Greek $\delta\alpha$ is not the oldest form of the syllable, but that (just as in the last syllable) *da* has been weakened to $\delta\alpha$. But why this first syllable at all? Why could not the Hindus and Greeks have said *dami* or $\delta\alpha\mu$ to express *I give*, just as the Slavonians said *damŭ*, the Lithuanians *dŭ-mi*, and the Latins *do* (for *da-o*)? One thing is quite clear, *dada* cannot be a weakened form of *da*: it requires much more labour to pronounce; and this labour could not have been taken except for an object. We are of necessity forced upon the conclusion that a change of meaning was intended by the doubled sound. What change, I hope to tell you another day. At present, let us be content with the result to which our analysis leads us, that in the word $\delta\delta\alpha\mu$ are exemplified the results of two radically different principles of change; the one by which a change of meaning is intended to be expressed; the other by which no such change of meaning is intended. Both changes are seen in the first syllable $\delta\alpha$, the last only in the last syllable $\mu\alpha$. The first class of changes I call *dynamic*; the second I call *phonetic*.

What is the motive for this latter change? The reason *its cause*. seems to have been twofold, though each caused the same result. We saw above that the operation of this law of change was to *weaken* the older form; that is, to change it to something which required less effort to produce.

And the general cause of this change can have been nothing else but the striving for ease in articulation; the endeavour to facilitate utterance by substituting a simpler

4 THE PRINCIPLE OF PHONETIC CHANGE. [LECT.

instead of a more difficult sound or sounds; the natural desire to reduce the word to such a form as may express the idea with the least possible amount of labour consistent with clearness. This principle is put very well by Prof. Whitney in his *Lectures on the Study of Language*, p. 69. "All articulate sounds," he says, "are produced by effort, by expenditure of muscular energy in the throat, lungs, and mouth. This effort, like every other that man makes, he has an instinctive disposition to seek relief from, to avoid: we may call it laziness, or we may call it economy: it is in fact either the one or the other according to the circumstances of each particular case: it is laziness when it gives up more than it gains: it is economy when it gains more than it abandons."

*Results of
this law of
change.*

Let us take examples of such loss or gain. The Indo-European form of the 1 pers. sing. of the imperfect of BHAR, "to bear," was *abharami* (Sk. *abharam*). Here the Greeks, as well as the Hindus, found the four-syllabled word too cumbrous for use: the accent probably fell upon the augment, because by the augment was expressed the fact that the bearing was in the past time, and the syllable which expressed this modification of the simple idea required emphasis: in consequence then of this emphasis upon the first syllable, the *i* of the last became less and less distinctly heard, until it disappeared altogether, and *abharami* appears as *abhara-m* in Sanskrit, as *ἔφερον-ν* in Greek: where *ν* represents *m* by a phonetic law of the language, because the Greeks found *ν* an easier sound than *m* at the end of a word. But the 3rd pers. plur. of the same tense was in the Indo-European *abharanti*: and this on the same principle was weakened in Sanskrit to *abharan*, in Greek to *ἔφερον*. We see then, as the result, that whilst each language gained a lighter form by each change, the Sanskrit retained distinct forms, while the Greek did not: the difference between the 1st person singular and the 3rd person plural had to be ex-

expressed in some other way than by the grammatical forms: lightness was gained, but distinctness was sacrificed. In this case we must believe that the gain of lightness of pronunciation was felt to compensate for the loss of grammatical accuracy; for where confusion was felt to arise, new distinctions were made, sometimes new forms arose; for example, the periphrastic tenses, formed by auxiliary verbs, a practice almost universal in modern languages, but found also in the Sanskrit and the Greek. As Prof. Curtius puts it: "the phonetic laws of some one tongue cause a certain form to perish; but forthwith there springs up a new one to supply its place. The original wealth melts away, yet the creative power of language continues to produce new treasures. Differences arise from primary unity: and variations of form thus newly brought forth are employed to distinguish shades of signification¹." These various forms were turned to better account by the Greek than by any other language. We have given an example where phonetic change produced confusion in the Greek: let us now take one where the variety, resulting from the same principle, was employed with admirable success in differentiation of meaning. Thus the gen. sing. and the nom. and acc. plural of *pad*, "a foot," were all formed in Indo-European by the affix *-as*—*padas*. This is almost certain from the fact that the Sanskrit never possessed any different forms for the three cases: and if the requisite vowel-variety had existed in Indo-European, it is exceedingly improbable that so conservative a language as the Sanskrit should have suffered it to die out. But if we turn to the Greek we find a very different state of things. In Greek, as in most of the European members of the family, the vowel *a* of the original speech was split up into the three sounds, *a*, *e*, and *o*. This important change will be fully considered

¹ *Essay on the Results of Comparative Philology in reference to Classical Scholarship*, p. 31.

hereafter. At present I only wish to say that it seems to have been in its origin purely phonetic: there is no reason to suppose that any change of meaning was intended to be expressed by this change of sound. But these sounds, found ready to hand, were employed by the Greek with marvellous skill. Thus, in our present example, the original *padas* could be differentiated into *ποδός* for the gen. sing., *πόδες* for the nom. plur., and *πόδας* for the acc. plur. No confusion between the different cases was any longer possible. The weakening of *a* into *a*, *e*, *o*, was turned in this instance by the Greek into clear gain; as in many others which will be given in their place. At present I turn back from the results of phonetic change, to repeat its cause—the desire for ease or saving of sound; and its general effect—to substitute a *weaker* for a *stronger* sound. This is not always so, for reasons which I shall shortly point out; but the new sound will always be an *easier* one to pronounce under the circumstances in which it occurs.

*Peculiar
causes of
different
changes in
different
languages.*

It may perhaps be asked what causes determined the different operation of this principle in different languages. This question—which amounts to an enquiry into the causes of diversity of language itself—cannot of course be fully answered here. No people has preserved unchanged all the letters of the original alphabet. Different peoples have modified it in different ways from causes at which we can give probable guesses, but which we can never certainly know. Occasionally we may see in the altered alphabet something which seems to correspond to the genius of the people which spoke it, or to be due to the country, climate and general circumstances among which they were placed. Thus we may think that we can see in the flexibility of the Greek language the impress of the versatility of the Greek genius, and the effect of that *λαμπρότατος αἰθῆρ* amid which at least the most brilliant section of the Greek family lived: whilst the

effect of the hot enervating climate of India may be seen in the numerous weakened forms of the consonants in Sanskrit. Thus lacking energy to bring the root of the tongue firmly against the back of the palate, the Hindus produced in some cases instead of the original *k* a peculiar sibilant, (denoted variously in philological works by *s'* or *ç*) the sound of which was probably something between the French *ç* and the German *ch*.¹ In like manner, probably through the influence of an adjoining *s*, they weakened *k* into *ch*, and *g* into *j*, the sound of *ch* and *j* being much the same as in England. Such weakenings are especially common in Sanskrit: and that they are due to some extent to the climate of India would probably be denied by few. Yet the same weakenings are found in all countries, though perhaps not often to so great an extent. In England we see the same thing. In different parts of the island we find the hard *k* sound of the Roman *castrum* either retained, or weakened to *ch* or soft *c*: we have Caistor and Lancaster, but Manchester and Dorchester, and weakest of all Leicester and Gloucester. These doubtless represent the different dialects of heterogeneous tribes who have been fused together in Britain; but the last two are nevertheless the result of a weaker articulation; they are corruptions of the harder sound; it is not a strengthened form of one of them. Similar corruptions in English are our pronunciation of Ocean as *Oshan*, and Nature as *Nachure*, and thousands of others which will at once occur to every one. If the spelling in England were not in the main fixed by the standard of the literary dialect, these words would long ago have been written as they are pronounced. In countries where there is no literary dialect, or where there are several, but no one distinctly predominant, variation of spelling is the inevitable result.

Now what is the importance of the principle of phonetic change which I have stated? Its importance is this—it is *The importance of this principle.*

¹ See M. Müller, *Lectures*, II. p. 133.

8 THE PRINCIPLE OF PHONETIC CHANGE. [LECT.

our one sure guide in etymology. We learn from it that we must hold it a rule, never to derive a harder from an easier sound; that a word which has retained a strong letter can only under exceptional circumstances be derived from another word which has a corresponding weaker letter. It shews, for example, that the Latin *sus* cannot possibly (in accordance with etymological theories not yet wholly exploded) be derived from the Greek *ῥς*; simply because *s* is stronger than *h*; and the same reason—were there no other—could alone refute most of such supposed derivations. Indeed if either language could be *derived* from the other, scientific etymology would rather shew that the Greek was derived from the Latin¹.

General rules to determine the relative strength of different letters can be obtained by physiological considerations and by historical investigation. Into the first I do not intend to enter: the student who wishes to do so will find sufficient to test his powers in Max Müller's *Lectures*, Series II. chap. 3. But even without scientific investigation it is clear that, for example, *k* is a stronger sound than *p*; that is, that *k* demands a larger amount of muscular exertion to produce it with the same intensity as *p*; the check is applied to the current of air issuing from the lungs at an earlier point in its course; and for this reason (with others less obvious) the sound requires more effort to pronounce. In harmony with this is the historical fact that in Sanskrit, Greek, Latin, and Gothic, the gutturals are found less frequently than the dentals or labials²; and we should naturally expect those letters to be more sparingly used which required the largest amount of labour in production; they would either be not employed at all, or would pass into easier sounds, or be altogether dropped, in words in much use, like pronouns, or in suffixes where

¹ See note at the end of this lecture.

² Curtius, *Griechische Etymologie*, p. 391, ed. 2.

neatness and convenience were essential. By these two distinct lines of reasoning we shall be led to infer that (to return to our present example) *κοῖος* is an older form than *ροῖος*; that *ροῖος* must be derived from *κοῖος*, not *vice versa*. So in Latin where we find side by side the words *coquina* and *popina*, we shall conclude that *popina* is a later, probably dialectical, variation of *coquina* which at an early period fell out of use at Rome, but was originally, as Varro tells us, used for a kitchen; and we shall see a possible reason for the change in the parasitic labial sound *u* which forms no part of either root or suffix, which had power to assimilate the final *c* of the root *coc* (whence *cocus*, &c.), and so turn the guttural to a labial: which in turn assimilated also the initial *c*.

The general principle of phonetic change, and the general directions which such change will take, are given by comparative philology. But different peoples differed much in the extent to which they proceeded along these different paths of change. Thus the Greeks made but one variation in dealing with the original aspirates; then they stopped, and the Greek aspirates are used with as much regularity as those of the original language. The Italians on the contrary, feeling the aspirates too difficult sounds, allowed them to degrade so completely, that the single Italian spirant *f* represents not only the labial aspirate *bh*, but *dh* not unfrequently, and occasionally even *gh*. On the other hand the Greeks have thoroughly weakened the spirants *y*, *s*, *v*; the Italians retained in the main the sounds, if not the symbols. From this it is obvious that the study of Comparative Philology can never supersede the necessity of thorough investigation of each particular language for itself. Greek etymology can only be known by historical investigation of the Greek language itself.

As a rule then, the weaker sound is later than the stronger. But to this rule there are undoubtedly some exceptions. All such cases will however I believe be found

Apparent exceptions to the principle.

on examination to be less apparent examples of the general law—namely, that phonetic change arises from weakness of articulation. A soft letter sometimes changes to a hard from the influence of neighbouring sounds: for example, the *g* of FRAG—whence *fragor*, &c. is hardened to *k* in *fractus*. This of course takes place because it is much harder to articulate a soft consonant and then a hard one immediately afterwards than it is to pronounce two hard together. The principle of assimilation has come in and reversed the common rule of phonetic change; but assimilation itself is an instance of the wider principle. Similarly *hiemps* would seem to be a stronger form than *hiems*: and certainly the *p* is merely phonetic and belongs neither to the base nor to the case-suffix *s*. But because it is very difficult to sound *s* immediately after the labial nasal *m*, in an indistinct less energetic pronunciation of the word, a weak *p* was heard, to bridge over the difficulty: and this made its way at last into the written word. But the new form though heavier is still easier to sound than the old one. Ease of pronunciation was the reason why *frag-tus* became *fractus* and *hiem-s* was increased to *hiemps*, just as much as it caused the weakening, e.g. of *stlites* into *lites* and *esam* into *eram*. Sometimes we find that the general endeavour for easier pronunciation takes the form of striving after greater distinctness, and so has the effect of strengthening a weaker letter. Thus the Greeks unable to pronounce *θιθημι* clearly changed the first aspirate into the stronger tenuis. But the change also is based on the fact that *τιθημι* is an easier word to pronounce than *θιθημι*. Taken by itself *τ* requires more effort to pronounce than *θ*: the check is more complete in pronouncing *τ* than in pronouncing *θ*, where the *h* is due to a portion of the breath being allowed to escape before the *t* is fully sounded. But when *θ* occurs at the beginning of two consecutive syllables, a greater effort is required

to place the organs of speech twice in the necessary position for producing it. I shall endeavour to prove in a later lecture that *θ* was pronounced not as our *th*, but as *t* with a distinct breathing after it: *t'hit'hemi* thus pronounced will be found very difficult. All these and other apparent exceptions arising from assimilation and dissimilation of sounds, or from indistinct articulation, will be fully described in their proper places.

A different cause has been assigned for certain variations of sound by Prof. Max Müller in his valuable lectures on the Science of Language: he supposes an originally indistinct sound, capable of passing into different forms in different languages or different dialects of the same language. In the fourth lecture of his second series, he gives several examples of "phonetic degeneracy:" and he says (p. 176) that the principal cause of this is "when people attempt to economize their breath and muscular energy." But beside this cause of variation, and distinct from it, he mentions another, which he calls "Dialectic Growth" (p. 180). By this he accounts for the phonetic diversity which is seen e.g. in the Sanskrit *gharma*, Greek *θερμός*, Latin *formus*—all undoubtedly modifications of one Indo-European word meaning "hot." These forms, he thinks, point to "a previous state of language, in which, as in the Polynesian dialect^s, the two or three principal points of consonantal contact were not yet felt as definitely separated from each other." Thus in the instance given above, the three forms were received by the three languages from some earlier stage, in which the articulation of the original word was so vague that it might take any one of the forms mentioned. This is possible, nor is the theory confuted by the *a priori* objection made to it by Prof. Curtius (*Gr. Et.* p. 366 note), that such indistinctness of sound is inconsistent with the strong articulation which peculiarly belongs to the oldest languages. But there seems

Different theories upon this subject.

to me more weight in his question, what the sound could have been which was capable of such strange variation. The numeral "five" is expressed by *panchan* in Sanskrit, *πέντε* in common Greek, *πέμπε* in Aeolic, *quinque* in Latin, *pomtis* in Oscan, *fimf* in Gothic, *penki* in Lithuanian. What can the two consonantal sounds have originally been which could be strengthened or weakened in so many ways? Prof. Müller speaks of "phonetic idiosyncrasies" in particular languages: which seems to me only another title for weaknesses of articulation become hereditary by transmission from one generation to another. But he says (p. 184) that "these idiosyncrasies are quite inadequate to explain why the Latin *coquo* should in Greek appear as *πέπτω*." Professor Curtius however thinks that the change from original *k* to *p* as in *πεπτω*, or from *k* to *t* as in *τις* (Sk. *kis*, Lat. *quis*) is to be explained by the involuntary springing up of parasitic sounds: thus that a *u* or *v* by relaxed articulation was sounded after the *k*—as it actually did spring up in the Latin, e.g. *ting-u-o* (Gr. *τέγγω*); and we may hear similar cases of relaxed articulation in England, e.g. *ne-a* for *nay*, and *ge-ate* for *gate* in Cumberland: and *fi-ound* for *found*, &c. in Suffolk—then this labial *v* by degrees corrupted the *k* to the labial *p*, and then vanished. Similarly *t* might arise from *k* by the mediation of a parasitic *y*—thus, *k*, *ky*, *ty*, *t*: the change from *k* to *t* being caused by just the same indistinct articulation which in England causes us often to hear *tloth*, and not *cloth*, and *dlory* not *glory*: though Prof. Max Müller finds it hard to believe it. These variations are of course not universal, only occasional; it is only comparatively a small number of words in which the Attic has weakened a *k*, which the Doric has retained, to *t* or *p*: similarly the Doric has suffered change in some roots as well as the Attic: *φει* (orig. *φακ*) is "to speak" in Doric as well as in Attic. I think that the theory given above is sufficient to explain most of the cases: and

thus they are all instances of a weakening tendency, gradually affecting different dialects and languages, and resisted by them in proportion to the firmness of their articulation; affecting for example the Doric least, the Attic considerably, the Aeolic (compare *πέμπε* and *πίσυρες* with the Attic *πέντε* and *τέσσαρες*) most of all; leaving the Latin untouched, but attacking the Oscan severely¹.

I have thus tried to shew that (in spite of apparent exceptions) all phonetic change has a downward tendency; that it causes in general weakening of the language, even though that weakening may be usefully employed. What then was the original, of which the Greek and Latin are copies, weakened each in its own peculiar way? This will be the subject of the next Lecture.

¹ Dr Donaldson (*New Cratylus*, § 121) explained this difference of sound as having been produced by "the law of divergent articulations" from "the union of the original guttural and labial *kp*." I am obliged to reject this terrible combination of sounds, because I see no reason to believe that our forefathers possessed much more flexible muscles than we do. He says (*ib.* § 110) that "the regular series of transitions, which such a combination of the guttural and labial would present, may easily be described: the guttural may be represented by *k, q, g, j, s, h*, the labial by *p, b, v*; and these sets of letters may be permuted with each other to any extent." Just before he says, "in those cases where a dental makes its appearance, it must be considered as having arisen by a fault of articulation from the sibilant:" so that *t* and *d* must be added to the permutations of the guttural. This is indeed etymology made very easy!

It may perhaps be thought that in these lectures too little reference is made to the works of one of the most active and independent of English philologists. As an old pupil, I should wish to do the fullest honour to the genius, learning, and untiring energy of Dr Donaldson: as such also I cannot but regret the failures in judgment (as they seem to me) which led him either to statements like those quoted above, which would degrade etymology to the mere juggling pastime that it is sometimes held to be, and render scientific treatment of it impossible—or to the wild and groundless ethnological theories which mar the *Varronianus*. If such theories were given as mere theories, no harm would be done; but they are put on the same footing with inductions as certain as those of any science can possibly be. It is this mixture of the proven and not-proven which must make Dr Donaldson's books unfit for students of comparative philology.

NOTE TO LECTURE I.

ON THE DERIVATION OF LATIN WORDS FROM GREEK.

The facts are so very simple, yet there is so much misconception about them, that it seems worth while to say a word on the supposed derivation of Latin words from Greek. This theory is probably to be attributed to Niebuhr's hypothesis of a Greek and non-Greek element in the Latin language, which made its way into English works without much examination through the influence of Niebuhr's extraordinary genius; but which has been completely overthrown by Comparative Philology. The apparently Greek element in the Latin language is (generally speaking) that part of the common inheritance of the Greeks and Italians, which each nation retained and developed after the separation of the two branches of the original stock. The apparently non-Greek element is that portion of the common inheritance which was neglected by the Greeks—or, if retained by provincial and obscure dialects was disused by those which possessed a literature; which therefore in process of time seemed to be—to some extent actually was—peculiar to the Italians.

What then are we to say of words like *lyra*, &c.? Are not these derived from the Greek? Certainly not *derived*. No Latin word is derived from the Greek in the proper sense of the term. The Latin *borrowed* words fully formed from the Greek, which it spelt on different principles according to the different times at which they became nationalised. At the earliest period at which such borrowed words occur, we find them spelt with such Latin characters as most nearly represented those Greek sounds which had either been developed by the Greek after the parting of the two peoples, or which had been lost by the Latins out of the original common stock. Thus the Greek aspirates—peculiar developments of the Greek—appeared in Latin as unaspirated mutes; e.g. *Aciles* (Ἀχιλλεύς), *Burrus* (Πυρρός); this last word and *Bruges* (φρύγες) shew that the full Latin *u* was taken as

the nearest Latin exponent of the Greek *upsilon* (a modified *u*), and in Plautus *ss* appears as the best representative of the strong Greek ζ (which differed from the old weak Italian *z*, see Corssen, *die Lateinische Sprache*, i. 122), in *badisso*, *tarpessita*, &c. In the Augustan age, on the contrary, Greek characters are borrowed as well as the sounds, the *Y* in *lyra*, the *Z* in *zona*, &c.: while a combination of letters represented the complex sound of the Greek aspirates—*chorda*, *philosophia*, &c. (An attempt will afterwards be made to shew that these aspirates were really aspirated letters in the Greek, not spirants, e.g. that φ was pronounced *p'h*, not *f*.) Now it is obvious that these words were not *derived* from the Greek; they were not formed from a Greek root by adding to it a Latin suffix; they were derived in Greece by Greek suffixes and transplanted when fully grown into Latin. They are as foreign to the Latin language and its development, as the men and things they represent were foreign to Rome. But from these borrowed Greek words it was inferred by a false analogy that numbers of genuine Latin words were borrowed from the Greek. Because *lyra* was the Greek λύρα, it was supposed that *lacruma* was the Greek δάκρυμα; and consequently it was written *lacryma*, or even by some curious fatality *lachryma*. But in truth the words have nothing in common except their root DAKR; each was formed from that root, but by its own suffix in its own land: the emotional Italian was not likely to lack a word for a tear, till he had borrowed it from the Greek! In other cases—e.g. the Latin *silua*, no doubt the noun SVLVĀ existed in Greco-Italian days, and was then modified by the two peoples in different ways according to their different phonetic laws. But it is an entire mistake to write *silua* with a *y*, that is, to imply that the word was borrowed from the Greek ὕλη. The Latin has indeed kept the old form more nearly than the Greek; it has changed *u* to *i*, and *ā* to *ē*, both regular Latin changes, and both weakenings; but ὕλη exhibits no less than four weakenings; *s* has passed into the rough breathing; *u* has (as always in Greek) been weakened to *upsilon*; *v* has passed out altogether, and *ā* has been thinned to *η*. *Silua* is the stronger word of the two and can no more be derived or even borrowed from ὕλη than *sus*, mentioned in the text, from ὕς.

The rule then to follow in writing Latin is very simple: we must use the letters *Y*, *Z*, and the compounds *CH*, *TH*, *PH*, in

words borrowed from the Greek and in no others. Such words are not difficult to recognise. They are mostly words relating to the arts and sciences which the Romans borrowed from the Greeks. All other words are, in ninety-nine cases out of a hundred, genuine Latin, and should be written in the Latin character. The only exception which should be allowed is in cases where we have express testimony that Roman writers in the last century of the Republic employed Greek characters—or the equivalent compounds in Latin—in words which are beyond doubt genuinely Latin, but which by a mistaken analogy were then supposed to be derived from the Greek. In such cases we may write, e. g. *pulcher*¹—though we believe it to be etymologically wrong—on the same principle that we write, e. g. *caussa*, and *querella*; because they represent the spelling which, rightly or wrongly, was in use in Cicero's day. Lucretius truly says, "Utilitas expressit nomina rerum"; and it is equally true that use must always be the standard of orthography, and must override etymological considerations. Only let our standard in Latin be the usage of Cicero's time, not of the period of the Renaissance.

¹ See Cic. *Orat.* c. 48. § 160.

LECTURE II.

RELATIONSHIP OF THE INDO-EUROPEAN PEOPLES.

IN my last lecture I endeavoured to explain to you what I meant by "phonetic change:" to shew you that it sprang from the desire to economise labour, and that its result was generally to weaken an older form of a word. In order then to do what I have proposed to myself in these lectures—to describe those phonetic changes which are peculiar to the Greek and Latin languages—it will be necessary to go some way back. It will be necessary for you to know something of that language from which they deviated. I shall not assume any acquaintance on your part with other forms of speech which have in like manner varied from the original speech of our forefathers—with Sanskrit, with Gothic, or with Lithuanian—and I shall refer as little as possible to these languages, and only when by so doing I can better illustrate some law of change. I presume that

Our starting-point, the Indo-European language.

you are acquainted with the general discoveries of Comparative Philology. I presume that you are familiar with the fact that all the civilized nations of Europe, and two at least of those of Asia, can be indisputably proved to be the descendants of one common stock: that there was a time when the forefathers of the German and of the Slave—of the Greek, the Italian, and the Celt—of the Hindu and the Persian—wandered over the same pasture grounds and spoke in the same tongue. So much is now, I suppose, familiar to all of you; but at the risk of telling you again what you already know, I shall give you here the very brief and clear account of the main divisions and subdivisions of the variously called Indo-European, Indo-Germanic or Aryan people, as given in that most valuable work, Schleicher's *Compendium der Vergleichenden Grammatik*.

Classification of the Indo-European people.

"The name of Indo-Germanic has been given to a certain class of the languages of the Asiatic-European portion of the earth, which are so accordant with each other, and which differ so much from all other languages in their nature, that they clearly show themselves to have sprung from a common original language. Within this Indo-Germanic family of languages, some which are more closely geographically connected, shew themselves certainly to be the most nearly allied, so that the Indo-Germanic family divides into three groups or divisions. These are—

I. The Aryan¹ division, consisting of the *Indian* and *Iranian*, or more correctly *Eranian*, families of languages, which are very closely related to each other.

The oldest representative and original language of the Indian family, and the oldest known language of the Indo-Germanic tongue altogether, is the old Indian, the language

¹ It will be seen that the term Aryan is here applied only to the two Asiatic peoples, who can be certainly proved to have called themselves by that name.

of the oldest portion of the Vedas; at a later time in a simpler form and as a grammatical literary language, contrasted with the popular dialects, named *Sanskrit*.

We do not know *Eranian* in its original form; the oldest Eranian languages which have reached us are the Old-Bactrian or *Zend* (the eastern), and the old Persian, the language of the Achaemenidean cuneiform inscriptions (the western). To this family belongs also the Armenian, which we first know at a later time, and which must have separated earlier from the Eranian original language.

II. The south-western European portion consisting of (1) the *Greek*, nearest to which stands a language only known in its modern form, the *Albanian*: (2) the *Italian*; the oldest known forms of this family are the *Latin*,—and especially important for us is the old Latin, as it was spoken before the introduction of the educated literary language moulded by Greek influence,—the *Umbrian*, and the *Oscan*: (3) the *Keltic*: the best preserved, but still very decomposed, language of the Keltic family is the *Old Irish*, reaching from the 7th century of our era¹."

Italian and Keltic resemble each other more than they do Greek, on which ground it has been generally assumed by philologists that there is also a closer family relation between them than between any other two Indo-European peoples. Other writers, however, relying rather on the geographical position of the Kelts when they first became known to us in history, on the fact that they occupy the extreme west, into which they may be presumed to have been driven by the successive wars which have swept over Europe, prefer rather to call the Greek and Italian peoples "brothers," while they call the Italians only "cousins" of the Kelts. This view is

¹ *Comp.* pp. 5, 6.

held by the latest historians of both Rome and Greece—by Mommsen and Prof. E. Curtius.

III. “The northern European portion, consisting of the *Sclavonic* family, with the closely allied *Lithuanian* (which is for us the important language among this group), and the *Teutonic*, which is widely sundered from both.

The oldest forms of language in this portion are the *Old Bulgarian*—old Ecclesiastical Sclavonic in MS., dating up to the 11th century: the *Lithuanian*—first brought under our notice three hundred years ago, but clearly of much higher antiquity—and the *Gothic*, of the fourth century. Near to the Gothic, however, are the most ancient representatives of the German and the Norse, the Old High-German and Old Norse, to be brought forward where they present older forms than the Gothic.

It is in the Asiatic division that is contained most that is ancient in the sounds and in the fabric of language, and here again especially in the *Old Indian*. Then follows with reference to antiquity—that is to say, in the retaining its similarity to the original language, in having fewer strongly developed individual forms—the Southern European division, in which the Greek had remained closest to the original; finally, the Northern European group, which, taken as a whole, presents itself as developed with the most individuality, and in which the least remains of the original speech are to be traced.

Their degrees of relationship.

If we combine this statement with the relationship already described of the Indo-Germanic languages among themselves, and draw from the two our conclusion as to the process of the divisions of the main body of Indo-Germanic speech in the earliest times, we arrive at the following results: The Indo-Germanic original speech divided itself first, by the unequal development in different parts of its

province, into two sections: it divided off from itself the *Slavo-Teutonic*, the language which afterwards divided into Teutonic and Slavo-Lithuanian: and later that portion of the original speech which remained, the *Aryo-Græco-Italo-Keltic*, divided itself into, Græco-Italo-Keltic and Aryan, of which the first named soon divided itself into Greek and Italo-Keltic: and the latter, the Aryan, remained undivided for a considerable time.

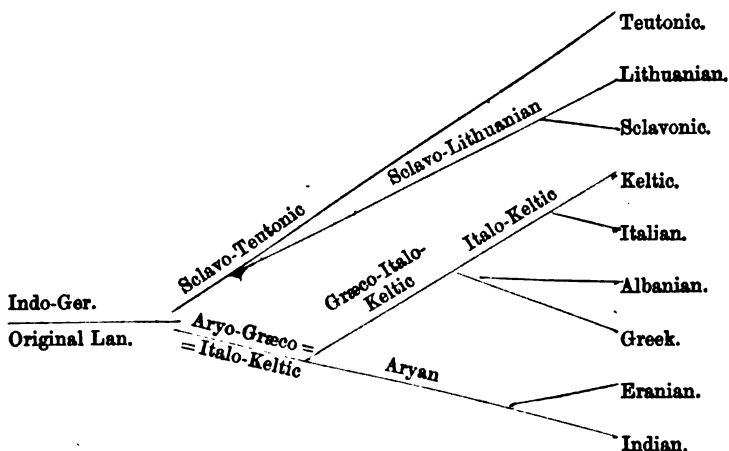
At a later period the Slavo-Lithuanian, the Aryan (Indo-Eranian), and Italo-Keltic further divided themselves. It is possible that at some or all of the divisions more languages arose than are now manifest, as in many instances in process of time Indo-Germanic languages have probably become extinct. The more towards the East an Indo-Germanic people lives, so much more of what is ancient has their language retained. The more towards the west they have gone, so much the less of what is old, and so many more new formations are to be found in their language. From these and other intimations we may conclude that the Slavo-Teutonic race first began their journeyings towards the west: then followed the Græco-Italo-Keltic: of the Aryans who remained behind, the Indians travelled south-eastward, and the Eranians spread in a south-westerly direction. The home of the original Indo-Germanic race is to be sought in the central high lands of Asia.

It is only of the Indians, who were the last to separate from the parent stem, that we can say with any certainty that they drove out an aboriginal people from their later dwelling-place, much of whose language passed into their own; of many of the other Indo-Germanic peoples such an hypothesis is highly probable¹."

Prof. Schleicher proceeds to show the degrees of relationship of the main families of the Indo-Germanic speech by

¹ *Comp.* pp. 6—8.

the diagram given below ; in which the length of the lines indicates the probable time of separation.



*Is this
original
people pro-
perly called
Aryan?*

To this primitive people I prefer to give the now rather superseded title Indo-European. I prefer it to the name Aryan, now rendered popular by Prof. Max Müller's most suggestive lectures, because I think that there is no sufficient evidence that that name was ever adopted by any other than the Asiatic branch of the family. The tracing by Prof. M. Müller (*Lectures*, Series I. p. 236) of "the ancient name of Arya from India to Ireland" seems, to say the least, very uncertain: and the connection of the word *ārya* with the root found in *arare*¹, is unlikely. Surely the simplest way is to connect it with the widely extended root AR "to fit:" whence the derivative might get the successive meanings of "fitting," "worthy," "noble;" a sequence of meaning very similar to that of the Sanskrit *sat*, originally (*a*)*sa(n)t*, the present participle of AS "to be," which signifies first "being," then "actually existing," "true,"

¹ *Id.* p. 226.

“good.” Why should not the eastern family of the Indo-European race—the ancestors of the Hindus and of the Persians—have called themselves “the noble” in opposition to the indigenous tribes whom they subjugated? just as the old Greek nobles called themselves the *ἑσθλοί* and *ἀγαθοί*, and the Roman conservatives styled themselves the “boni?” The evidence of names like Ariovistus, and the very dubious Erin and Ireland, is too slight to warrant us in supposing that the use of the term *ārya* in its derived sense is older than the time when the Hindus and Persians remained together as one people after the separation of the Eastern and Western branches.

The readiness with which the name Aryan has been accepted as the designation of the entire family, might almost seem to be a trace of the erroneous belief till late almost universal—a belief of course not shared by Prof. Max Müller—that Sanskrit is somehow an older language than its sisters: and by consequence that every form found in Sanskrit must represent the primitive form more nearly than any other, if indeed it be not the primitive form itself. This error was indeed a natural one: it arose from the undoubted fact that our records of Sanskrit speech stretch back to a much earlier time than those of any of the sister languages. Still very little consideration will show that it does not necessarily follow from this that Sanskrit must in every case present to us the oldest form of verb or noun, of derivative or inflective suffix. As a matter of fact, there is hardly any language—not even the most corrupted of modern tongues—which does not occasionally shew us a more antique form than the Sanskrit. Thus the Greek *ἀ-στέρ*- (where the *α* is euphonic), the Latin *stella* (for *ster-ula*); the Gothic *stair-nô*, German *stern*, and Dutch *ster*, can leave no doubt on our mind that our own “star” represents more faithfully the name by which our fathers knew the nightly

*Importance
sometimes
given erro-
neously to
Sanskrit.*

fires which shone in all their wondrous splendour above the unbroken horizon which bounds the highlands of central Asia, than the corrupted Sanskrit *tāra*, where the *s* has been lost by relaxed articulation: whilst the identity of the Sanskrit word with the more perfect form preserved by the sister languages is evidenced by the Vedic *staras*. In fact Sanskrit, eminently conservative as it was of derivative and inflectional forms, can shew at least as large a list of weakenings of particular letters or groups of letters, as any Western language. The primitive form in every case is to be discovered only by tracing the word up through all the main divisions of the original speech in which it occurs. To do this requires care, acuteness, and knowledge of the special phonetic laws of each language. Neither similarity of sound, nor identity of meaning, alone is sufficient to prove the identity of similar words in different languages. Nay there are cases where identity of sound is an almost certain proof that the words must be of different origin; had they sprung from the same word they must in obedience to ascertained phonetic laws have taken *different* forms in different languages. Thus no one doubts that the English "kin" (Goth *kuni*) is the same word as the Greek γένος. But if our English word had begun with *g* and not with *k*, we should have known the two words though identical in sound must have been of different origin: because in accordance with an ascertained sequence of sound—well known by the name of Grimm's law—*k*, and not *g*, is the letter which in Gothic corresponds to *γ* in the same Greek word. Correspondence then of sound, according to known rules—not necessarily identity—must be insisted upon as necessary for certainty in etymology, as well as identity of meaning. In obedience to this canon we must reject many etymologies which might otherwise seem most certain. Thus probably few would hesitate to identify at first sight the Roman *deus* with the Greek

θεός. But in words derived by the two languages from a common source, an initial *d* in Latin has regularly *δ* corresponding to it in the Greek; as *domus*, *δόμος*, &c. Therefore whilst *deus* must be referred together with the Sanskrit *deva* to an Indo-Eur. root DIV "to shine;" some other origin must be sought for *θεός*; perhaps ΘΕΣ a secondary form of ΘΕ the root of *τίθημι*; though this is rejected by Prof. Curtius (*Gr. Et.* p. 230 and 454. 2 ed.) in favour of a distinct root ΘΕΣ "to pray," corresponding, as he thinks to a Latin *FES* in *fes-tus* &c.; from which would be derived the curious word *θέσσαρτο* in Pindar (*Nem.* v. 10). But, be the derivation of *θεός* what it may, the severance of it from *deus* is a fair example of the rigorous observance of phonetic laws which the science of Comparative Philology demands when properly pursued.

But we must return to our immediate object. We do not now want by comparison of different languages to discover the original forms of the words we find there in their endless modifications. We want to know what those phonetic laws are which have modified the development of Greek and Latin. We must therefore assume the main results of Comparative Philology. We must accept the forms discovered by manifold comparison; and then see how the Greek and Latin forms have varied from them. To do this fully, we ought to know the exact stage of development at which this early speech had arrived before the time when those who spoke it were broken up into those great divisions which have determined the history of the world. We ought to see what was their store of letters, their stock of roots, their wealth of grammatical inflexion, their capacity for extending their vocabulary by composition and by derivation. Then we may be able to form some estimate of the force of character and circumstance by which were developed the two languages of which we are speaking; the one un-

Our object, to know something of the letters, roots, and words of the original speech.

doubtedly the most rich and flexible, the other perhaps the most tenacious and unyielding of the entire family. I shall endeavour in my next lecture to set before you the Indo-European alphabet, as exhibited in certain roots and words common to nearly all Indo-European peoples, which will incidentally throw some light upon their formative system.

What is a
"root"?

Perhaps, however, before we proceed further, it may be well to say a few words in order to obviate a possible mistake. We have had and shall often have to speak of "roots." Now it is very important to know clearly what we mean by this word, if we wish to keep our ideas clear. I think that it is often supposed when we say, for example, that *da* is a root meaning to give, or *i* a root meaning to go; that in arriving at these roots we have arrived at some ultimate facts from which to start back and explain the whole constitution of language; that in fact it is a law of nature that *da* must mean to give, *i* must mean to go. Now in the first place we must carefully remember that it is only for the Indo-European family that *da* means to give. It is not so for the whole human race. So if there were some inherent necessity that *da* should mean "to give," that necessity would exist only for one family of mankind—confessedly the most important family—but still only one out of the human race. If indeed this fact were universally true, all our philological inquiries would have been but steps in the inquiry into the origin of language as a whole. But it is quite possible to examine the relation of a Greek word to other Greek words, or to cognate words in Sanskrit and Gothic and Latin, without being involved in the question whether the so-called Bow-wow and Pooh-pooh theories are true or not. That all language did originally spring from imitational and interjectional sounds combined—not from one or the other separately as has been implied sometimes—I for one firmly believe, not seeing any other possible origin

for language. But the furthest and earliest time to which the history of the Indo-European language can be traced does not come any way near to that really primeval time. The highly-developed vowel system of the Indo-European language, its power of expressing modifications of idea by change of vowels, and the extent to which this method has superseded the older and simpler method of reduplication; the general lightness and flexibility of its roots; its inflectional system already suffering from decay: these and many other facts may give some idea of the lapse of time which must have separated the earliest historically traceable stage of the language of Europe, from those first beginnings of all speech.

And the more clearly we understand this, the less shall we be inclined to admit any *necessary* connection of sound and sense even in the Indo-European roots. What probability

*Connection
between
roots and
ideas.*

is there that any analysis can give us the ultimate form of those roots? Is it not on the other hand certain that in all that vast prehistoric time they must have been undergoing changes analogous to those we find during those ages in which we can trace their development? If, then, we cannot know with certainty their ultimate form, of what scientific use can speculations be upon the connection between them and the ideas they express? That there was some connection originally I believe; but I do not believe that it is ever discoverable with certainty: and that it was ever necessary, I deny. Mr Farrar (*Chapters on Language*, c. 18, p. 202) mentions the frequent occurrence of the combination *st* to express stability. Undoubtedly the root *sta* and extensions of it—*stav*, *star*, *stambh*, &c.—are found in all the Indo-European languages. He proceeds: "There must have been some reason for this; and we believe it to be furnished by the simple instinctive *Lautgeberde*—*st!* a sound peculiarly well adapted to demand attention (compare *whist!* *usht*, &c.), and therefore well adapted to express stopping and standing

as the immediate results of an awakened attention." Very possible: but how is it to be proved? How do we know that *sta* is the ultimate form of the root? It would be quite in analogy with the development of other roots (e.g., *gan*, *gnā*) that a more original form was *sat*: in which case the explanation does not seem so probable. It is essentially a guess and incapable of verification. On this question of the connection between idea and form, I adopt unhesitatingly Renan's view (*Or. du Lang.* p. 148), "*La liaison du sens et du mot n'est jamais nécessaire, jamais arbitraire, toujours elle est motivée.*" The force of the latter part of this maxim will, I hope, appear more fully in the course of these lectures.

Definition
of a root.

What then do I hold about roots? I accept Prof. Curtius' definition, although I do not agree with all his views respecting them: "A root (*Gr. Et.*, p. 43, 2nd ed) is that combination of sounds which remains when a word is stripped of everything formative." Further on, he excludes such combinations as have suffered from chance, sporadic, variation. For example, take the word *γίγνομαι*. Here strip off the reduplication *γι*, the termination *μαι*, and the connecting vowel *ο*, we have left *γν*, an unpronounceable result. But the true Greek root *γεν* is preserved for us in *γενος*, &c., the *ε* having been lost in the verb in the striving for lightness of sound, a tendency which we shall see has had so wide effect on language as to be entitled to the name of a law. A root then to me is simply an abstraction¹, a convenient heading under which to class different words belonging to the same family, a help when we wish to investigate their affinities to each other, or their relation to words of another family, or again of another language. For these are the only proper objects of Comparative Philology, at least in its present stage: and they are quite enough to occupy philolo-

¹ See however M. Müller, II. 84, &c.

gists for many years to come, instead of investigating problems for the solution of which there are not yet—perhaps never will be—sufficient data. From this point of view we can speak of a Greek, or a Sanskrit, root as well as of an Indo-European root—not implying that it is the simplest form traceable, but the simplest in that language. Thus I spoke above of the “Greek root *γev*,” and this is the oldest distinctive Greek form. But *e* is never an original vowel of any root in any Indo-European language, and comparison with the Sanskrit *jan*, with a knowledge of the phonetic changes found in each language, leads us to the original Indo-European *gan*, the oldest traceable form. Still for Greek philology it is convenient and permissible to speak of the root *γev*. I confess that I do not like the metaphor; it seems to me to imply too much, almost some power of growth inherent in the “root.” But the term has become so established that it is hopeless to think of changing it; and no harm can be done so long as we know clearly what we mean when we use it—that we are only employing a label (as it were) to distinguish a number of phenomena; not thereby giving any explanation of them¹.

This application of the term root to the ultimate forms of particular languages may also be justified for the sake of clearness; since, if we refer all Greek roots back to their presumably original Indo-European form, we shall confuse, as Professor Curtius has pointed out, roots the most dissimilar. Thus there is a Greek root ΓΑΡ, “to call,” found in *γῆρυς*; another ΓΡΕ, “to awaken;” and another ΓΕΡ, “to be old,” in *γέρων*. All these Greek roots may be traced back to the simpler form GAR, which is attested both by the laws of phonetic change, to be hereafter stated, and by the occurrence of derivatives in all these senses in the sister languages: thus GAR appears in the sense of “chattering”

¹ Cf. Farrar, *Chapters on Language*, p. 97.

in *garrure*, where custom and use have given the word a slightly different sense from that of *γῆρύειν*; the same form must underlie the anomalous Sanskrit root *jāgri*, "to wake," which is only *gar* irregularly reduplicated and then weakened; thirdly, it appears in the Sanskrit *jaras*, "old age," with only the weakening of *g* to *j* common in Sanskrit. If therefore we wish to trace the words belonging to these three classes back in every case to the presumably earliest form, we should be justified in saying that the simplest traceable form in each case is GAR. But what do we gain by this? It is much better for Greek philology to retain the three distinct forms, than to speak of three distinct roots by one form. Indeed it is to my mind most probable that at a still earlier but prehistoric period, all three roots were distinct in form; and that each afterwards passed into the form GAR by regular processes of mechanical change.

LECTURE III.

THE INDO-EUROPEAN ALPHABET.

It may be regarded as certainly ascertained that at a time *The original alphabet.* not long before the first great separation of the Indo-European family, their alphabet contained at least fifteen consonants, and three vowels. The consonants are best arranged thus : nine momentary, and six protracted sounds—the Dauerlaute of German etymologists. These two classes are called by Prof. Curtius Explosiv- and Fricativ-laute respectively. The nine momentary sounds contain 3 hard—K, T, P ; 3 soft—G, D, B ; and three aspirates—GH, DH, BH. The protracted sounds comprise the nasals, N and M ; the three spirants Y, S, V, and the liquid R. There seems not to be sufficient ground for attributing to this primitive alphabet the guttural nasal, which is denoted by a special symbol in Sanskrit, and which is represented by γ in *ἄγγελος*, and by *n* in *angustus* : though it may be that the sound existed with no special symbol ; in that case the language possessed a nasal for each of the classes of momentary sound, guttural, dental, and labial. It is also doubtful whether R had not begun to pass into L before the breaking up of the Indo-European people, as it certainly did pass in the derived lan-

guages: if so, it should also be added to the early alphabet. It is likewise maintained by able writers that our forefathers possessed the hard aspirates KH, TH, and PH, as well as the soft ones. These hard aspirates are found in the Asiatic languages; and in all the Greek dialects in the forms χ , θ , ϕ : the Greek, as also the Latin, has lost the soft aspirates. It has been argued that these hard aspirates being found both in Greek, Sanskrit, and Zend, must be regarded as part of the common inheritance of our common ancestors, which were afterwards suffered to fall into disuse by the other members of the family. But on the other hand, there are many indications in Sanskrit that the hard aspirates were only developed by the Hindus after their isolation from their European brethren, and this fact, coupled with their absence from the Latin and the Teutonic and Slavonic peoples, makes it more probable that the aspirates were separately produced by the Greeks, and by the Hindus and Persians, at times subsequent to the great separation. This question will be touched upon again in the next lecture.

In vowels, we find the three simple sounds, A, I, U. Of these I and U have by their side the cognate consonants Y and V, into which they often pass. A, on the contrary, can pass into no consonant: it is the vowel *κατ' ἐξοχήν*. Schleicher says that "*a* in the original Indo-Germanic speech is by far the commonest vowel: it occurs much oftener than both *i* and *u* together¹."

*Extension
of the
vowels.*

But our forefathers would seem to have possessed more than these three simple sounds. In order to express greater intensity of idea—or in order to denote some other modification of the idea—they had learnt to vary the simple *a*, *i*, *u* by an addition of vowel sound. By simply allowing a stronger current of air to pass from the lungs before sounding the radical vowel of a word, they produced in effect a new vowel

¹ *Comp.* p. 12.

a before each such vowel; *a* being, as I have said above, of all vowels the simplest, and the least modified by the different organs of speech. Thus instead of original *a* they had *a + a*, or \bar{a} : instead of *i*, *a + i* or $\bar{a}i$: instead of *u*, *a + u* or $\bar{a}u$. Repeating the process they had *a + \bar{a}* = $\bar{\bar{a}}$ again; *a + \bar{a}i* = $\bar{\bar{a}}i$; *a + \bar{a}u* = $\bar{\bar{a}}u$. They had thus a double modification of each vowel on an ascending scale—

$$\begin{array}{lll} a, & a + a = \bar{a}, & a + \bar{a} = \bar{\bar{a}}, \\ i, & a + i = \bar{a}i, & a + \bar{a}i = \bar{\bar{a}}i, \\ u, & a + u = \bar{a}u, & a + \bar{a}u = \bar{\bar{a}}u^1. \end{array}$$

It is quite true that these graduated vowel-scales are not found in any one Indo-European language in the exact forms here given. But this principle of vowel-modification is so certainly traceable in so many of the derived languages, that we may with absolute certainty refer it back to their common parent: and the special phonetic laws of the several languages prove with equal certainty that the different forms in which these scales are found can be referred to the forms given above as the common original of all, and to no others. Some few of these different forms will be mentioned in the Lecture upon Vowel-Intensification.

It might have been expected that just as *a* was intensified into \bar{a} , so also *i* and *u* should have been raised to \bar{i} and \bar{u} , as their regular method of increase. Indeed instances might be brought forward from the Greek of this lengthening, e. g. $\tau\rho\bar{i}\beta\omega$ from $\tau\rho i\beta$, $\lambda\bar{\upsilon}\omega$ from $\lambda\upsilon$: lengthenings apparently of the same kind in the Latin are not really in point, e. g. *fido* from *fīd*, *dūco* from *dūc*, for these are weakenings from *feido* and *douco* respectively, as is proved by inscriptions; but there seems no ground for denying that the Greek modifications like those mentioned above are genuine examples of vowel-intensification. But the method is not

This increase of sound was qualitative, not quantitative.

¹ Schleicher, *Comp.* p. 11.

sufficiently universal in the derived languages to prove that it was in use in the parent speech. Schleicher¹ indeed argues that \bar{i} and \bar{u} were unknown to the Indo-Europeans: and strange though this seems, it would certainly be difficult to prove their occurrence by such strict proof as sound philology requires. The strongest argument in their favour is perhaps their constant occurrence in Sanskrit roots: but even these, as Schleicher points out, are mostly lengthened forms of simpler roots and peculiar developments of Sanskrit, the simpler form being in many cases found in the cognate language, e. g. "to be" is in Sanskrit $BH\bar{U}$, but in Greek $\Phi\bar{\tau}$, Latin $F\bar{U}$, so that it cannot be doubted that $BH\bar{U}$ was the primitive form. At all events, even if this ever were the regular method of intensification in Indo-European speech, it was superseded before the earliest sundering of the languages by the more refined method of *qualitative*—not merely *quantitative*—increase. Such a thorough loss of a simple early linguistic process, and such a complete establishment of a later and more subtle one, seems to me one proof amongst many of the distance at which Indo-European speech as traceable in its earliest form lies from the primitive speech of the human race, and of the consequent uncertainty of all speculations which treat roots as *absolutely* ultimate forms, and then seek to explain them on physiological grounds.

The advantage of qualitative over quantitative intensification is obvious: two distinct steps in each scale in which it is possible are gained instead of one. This is of course impossible in the A scale, if both the first and second stages are denoted by \bar{a} . These stages however are found distinct in Greek and Gothic, thanks to substitutions to be hereafter noticed; not so in Sanskrit. Here then the Sans-

¹ *Beiträge zur Vergleichenden Sprachforschung*, edited by Kuhn and Schleicher, i. 331.

krit would seem as it commonly does to represent the simplest stage of vocalism : whilst the Greek and Gothic, as we believe, by their richer vowel-system succeeded in distinguishing what was at first undistinguishable.

The consonants had no such power of development as the vowels. Where they changed, they changed not for the better, but for the worse. But generally speaking the consonants of the Indo-European roots and even of the formative system remained unchanged, except in so far as they were modified by the tolerably regular and definite operation of the special phonetic laws of the different languages. Consonants indeed are the frame-work of language ; the stage (if the metaphor may be allowed) varying little from land to land with varying circumstances and traditions. But the difference of the plays exhibited on that stage measures the difference in the depth, the acuteness, the subtlety of the intellect of the nations. Such play in language is given to the vowels.

Consonantal change was regularly phonetic, not dynamic.

Schleicher has well expressed the consequent difference in the use of vowels and consonants. "The vowels," he says¹, "by their power of development can in addition to the expression of *meaning* express *relation* as well : the consonants are nothing but elements in the expression of meaning." Thus by vowel-change the Greek root ΠΙΘ can be raised to the forms *πειθ* and *ποιθ* : three different stages of action can be expressed by these three forms, as we shall hereafter see : in all these the radical meaning is preserved by the consonants, the *relativity* is brought out by the varying vowel. The same root appears in Latin in the form *FID* ; here also we have the three stages, *fides*, *feidus* (afterwards spelt *fidus*), and *foidus* (afterwards *foedus*), although the *meaning* which we believe the change once had

¹ *Comp.* p. 162.

has perished in the general disorganisation of the Latin vowel-system.

I now proceed to give examples of the Indo-European consonants occurring in primitive roots and words, which have been deduced from the various forms in which they are found in the different languages according to their special phonetic laws. It will be seen at once that in some languages (especially in the Sanskrit) some of the consonants have been so much corrupted that the identification of e.g. a common Greek and Sanskrit root, may not be obvious without some knowledge of the phonetic laws of Sanskrit, which would account for the variation. This difficulty is unavoidable and cannot be met here, because it does not come under my plan to give in detail the phonetic laws of any language except of the Greek and of the Latin: and therefore it might be more consistent to proceed at once, after having merely enumerated the letters of the original alphabet, to the several Greek and Latin variations from them. But I think that this survey may be useful, and (I hope) interesting, on different grounds. I want you to have a firmer conviction of the existence of an actually spoken Indo-European language than you are likely to have acquired from merely hearing their alphabet. Also it may be a guide in general etymology to know under what forms it is possible for words familiar to you in Greek and Latin to appear in some others of the more important languages of the world: by having a rough list of the consonantal variations of those languages you may be kept at least from identifying words which can have no possible connection; if you cannot attain to the first part of Lucretius' end of knowledge—"quid possit oriri," you may at least see "quid nequeat." Man will always etymologise; but whether he does so to purpose or not, depends on his knowledge of the ascertained laws of the science.

I shall give the *regular* substitutes for each letter in each of the main languages of the family. The irregular merely sporadic variations of the Greek and Latin will come under our notice afterwards: those of the other nations do not concern us. The great majority of the examples are borrowed from the carefully selected list of parallel words in the second book of the *Griechische Etymologie*, which are given there in their relation to the Greek. I begin with the hard momentary sounds.

Examples of Indo-European alphabet. 1. Momentary sounds.

K.

(Ind.-Eur. *K* = Sk. *k*, *kh*, *ch*, *ç* = Gk. *κ* = Lat. *c*, *g*. = Goth. *1. Hard*
h, *g* = O. H. G. *h*, *g* = Lith. *k*, *sz*.) *momentary sounds.*

Thus the Ind.-Eur. root AK, expressing "sharpness," must be assumed as the root form of the Greek *ἀκ-οντ*, *ἀκ-ωκ-ή* and *ἄκρος*, of the Lat. *ac-us*, *acu-o*, and *ac-ies*; the natural transition to the idea of quickness is found in Sk. *āç-u*, Gk. *ὠκ-υ*, Lat. *ōci-us*. The root has been prolific in Greek and Latin, but nearly barren in the North-European branch. Yet Prof. Curtius (*G. E.* p. 123) seems to be right in combining the O. H. G. *hamar*—our "hammer"²—with the Lith. *ak-men*, and the Sk. *aç-man*; each of which means a "stone," and the latter also a "thunderbolt;" and with the strange Greek *ἄκ-μον*, which commonly means an "anvil," but which in Hesiod, *Theog.* 722, where he speaks of the *χάλκεος ἄκμων οὐρανόθεν κατῶν*, can mean nothing but the "thunderbolt." If all these words, as is probable, though Prof. Curtius with characteristic caution declines to affirm it, are to be referred to the root AK, we see in the "hammer" and the "anvil" the development of the further idea of "hardness," whilst the earlier idea of "swiftness," hard entirely to be dislodged, lingered in Greek if but in the thunderbolt of Hesiod.

The direct antithet of AK is KI, the root of "quietness;"

the ground form of Sk. *ḡI* "to lie", of *KEI* in Greek, where the simplest form does not occur, but the first step in vowel-intensification is to be seen in *κείμεναι*—not therefore a perfect in form any more than in sense, but a present form intensified in a rare though perfectly natural manner—in *κοίτη* "a bed," and probably in *Κύμη*¹, in which case the *υ* would be a weakening of the radical vowel *ι*; more frequently found in Æolic than in the other dialects; and if this derivation be true, it will be difficult to exclude *κώμη* and *κῶμος* from the same family. The certain Latin form is *QUI*, whence *quies*—but Prof. Curtius would derive also *civis* from the simpler root-form *ḡI*. *Civitas* did not necessarily imply to a Roman residence in any *one* large town: and the antiquity of the use of this root to denote settled abodes—but not so much towns as villages—is shewn further by the Gothic *haims*—"haimos jah baurghs" (*πύργοι*, *Burghs*) is used in Mark i. 38 to answer to the Greek *καμπούλεις*—the German *heim*, our *home* and *hām* as a termination: and in Lithuanian also *kĕma-s* is a village. It would of course be an entire mistake to conclude that "home" and its cognate words in the northern languages ever meant the "quiet peaceful place," natural as the association may seem. Only the Latin race seems to have developed the secondary meaning "rest," "peace," from a root which, like all others, had originally only a physical force—"to lie," and our "home" is (etymologically) nothing but the place where our forefathers settled or "laid them down." This obvious and important rule, that the derivatives of our language must be kept clear of the associations which cling to the derivatives of another—unless there is good evidence to shew that the derived idea was developed before the separation of the two peoples—is not always observed even by eminent philologists.

To pass from roots to words whose simple sense and simi-

¹ *G. E.* 134.

lar form allow us to claim for them a common representative in Indo-European days, we find *k* in *kara* the "head." This form is certain from the Zend *çara*—though the Sanskrit has allowed the *a* to pass into *i*, and kept only a secondary form, *çiras*—the Greek *καρα* and the Latin *cere-brum* the "brain." Ennius' well-known separation of this word into its two parts "head-bearing" (or perhaps "born") may, I think, shew that some sense survived even in his day of the first part having once signified the head, if we take into account the frequency of its occurrence in other (less obvious) compounds, as *crista* (= *cere-sta*) *cervix* (from *veh* to carry), and the fact that such tmeses were not likely to be used by old writers, unless the feeling of the word being a compound was vivid; compare *ordia prima* and *facit are* in Lucretius (iv. 28, vi. 962). The second part of a compound or a derivative suffix attached to the original noun signifying "head" is the *n* in the Goth. *hwair-nei*, the German *Hirn* and *Ge-hirn*, and the Lowland Scotch *harns*, all meaning "brains".

Ka denoted "who" in Indo-Eur., and was retained unaltered in Sanskrit and Lithuanian: it was changed, probably through the same indistinct pronunciation, in Gothic into *hva* and Latin into *quo*: the Ionic alone in Hellas retained the primary form in *κοῦ*, *κοῖος* (= *ko-yo-s*), while the other dialects substituted *π* for *κ*.

Lastly, *katvar* must have been the primitive form from which through many changes, some of which will come before our notice later on, came the Sk. *chatvāras*, the Gk. *τετραπες* (a form which does not occur, but is necessary to explain the dialectical variants *τέσσαρες* and *τέρορες*), the Lat. *quatuor*, Gothic *fidvor*, and Lith. *keturi*. It will be observed in both the last examples that a majority of the derived languages exhibit a labial sound which either occurs after the guttural (as *v* or *u*) or has altogether driven it out of the field, remaining itself as *p* or *v*: and the *ch* in *chatvāras*

must have been produced by some consonant following after the original *k*. These facts go far to shew that this subsequent labial was Indo-European, as is asserted by Leo Meyer¹. Its origin will be discussed hereafter when I speak of the phonetic effects of indistinct articulation, to which (following Prof. Curtius) I believe it to be due. Other philologists assign to this labial an independent existence: amongst them Dr Donaldson², who is enabled to see in the compound—*kp*—the origin of the Digamma.

T.

(Indo-Eur. *T* = Sk. *t*, *th* = Gr. *τ* = Lat. *t* = Goth. *th*, *d* = O. H. G. *d* = Lith. *t*.)

A very important root is TA, strengthened probably in very early times to TAN: the stronger form is found in all the branches of the family. Thus we have in Sanskrit *TAN* "to stretch," though the past participle *ta-ta-s* is to be referred to the older and simpler form. The Greek has the forms TA, TAN and TEN preserved in *τά-σις*, *τέ-ταν-ος* and *τέν-ων* respectively. The simple idea has been very generally retained: *τείνω* and *tendo*, the Goth. *thanja* and Lith. *tempju*, each mean "I stretch out," or "extend." Various secondary significations are found—in *τάραος*; in *tenuis*, *tener*, *tenax*; in German *dünn* and our "thin." Lastly, there seems little doubt that to this same root should be referred O. H. G. *doner*, and our "thunder," slight though the connection of idea may appear³.

(Formation
of second-
ary from
primary

This formation of a new root by adding a nasal to the simplest form is not uncommon and very old. Thus the root GA "to produce" had by its side in Indo-European

¹ Vergl. *Gram.* i. 29.

² *New Crat.* § 110.

³ See Max Müller, ii. 93. Farrar, *Chapters on Language*, 177. Curtius, G. E. 196.

times GAN with the same sense: MA was strengthened into MAN, though perhaps the simpler form retained generally more of the simple signification of "measuring" while the latter expressed the abstract idea—needed even in those days—of "thinking." Similarly in Sanskrit HA "to kill" was expanded to HAN with the same sense; and if the Greek $\phi\epsilon\nu$ in $\pi\epsilon\phi(\epsilon)\nu\omega$, &c. be the same root, the secondary form must also be ascribed to ancient times. The development of BHA to "shine" into BHAN is found also in Sanskrit and Greek: the new root is well employed, but with a curious difference, by the two peoples. While the Greeks employed the simple root chiefly in the sense of making bright or clear by language, i. e. of speaking as in $\phi\alpha\mu\iota$, $\phi\acute{\eta}\mu\eta$ ¹, they employed the secondary root to denote the original sense, as $\phi\alpha\acute{\iota}\nu\omega$, $\phi\alpha\nu\acute{\eta}$ a "torch:" the Hindus on the other hand kept the primary sense to the primary root; while BHAN appears in the Vedas as "to praise." This difference of meaning seems to me to indicate that although this method of modifying a root was known to our Indo-European fathers, yet they did not employ it to denote any very definite change of idea: that its origin may probably have been phonetic², the nasal being a not very distinct after sound—something like the so-called ν $\acute{\epsilon}\phi\epsilon\lambda\kappa\nu\sigma\tau\iota\kappa\acute{o}\nu$ —arising perhaps from an imperfect opening of the lips and consequent passage of the current of air through the nose. This seems more probable than the theory which I formerly held; that these secondary verbs were denominative, i. e. formed from a participle or some other nominal derivative of the simpler verb: as for example $\tau\nu\pi\text{-}\tau\omega$ might be a denominative verb

¹ The apparent exception $\phi\acute{\alpha}\sigma\iota$ is probably to be referred to another secondary root $\phi\alpha\text{F}$, which is found in the Pindaric $\acute{\iota}\pi\acute{o}\phi\alpha\nu\tau\iota\varsigma$ (*Pyth.* II. 76), and $\acute{\iota}\pi\acute{o}\phi\alpha\nu\sigma\iota\varsigma$, Herod. 7. 36; the former word having the derived, the latter the primary meaning.

² If so, this phenomenon is distinct (at least in its origin) from "Nasalisation," under which Prof. Curtius classes it (*Tempora und Modi*, p. 56).

formed from *τυπ-το* the past participle of the simple *τυπ*. But though many verbs were doubtless thus formed, especially in later stages of the language, this hypothesis seems hardly to explain a modification of a simple root into another root, without any intervening base. The whole question of the formation of secondary roots though interesting must remain for ever impossible of certain solution. Prof. Curtius has discussed the chief hypotheses¹—that they are formed from nominal bases, as mentioned above—that they are combinations of two simple roots, an ingenious theory much employed by Prof. Pott—or that the new element is a pronominal stem, employed to define still further the simple root. To all these theories he raises objections, of a somewhat *a priori* character, and not (in my opinion) conclusive. I think it possible that *all* these methods of formation may have been in use, and that each may be credited with a share of the numerous secondary roots: the largest share being probably due to the second. Thus for example it is certainly not impossible that *tendo* may be (as Pott suggests²) simply a combination of the roots *TEN* and *DO*, (Indo-Eur. DHA, Gr. *θε*) to “place.” No one doubts that *ab-do*, *con-do* &c. are all formed from this root, which may in time have lost its etymological sense, and come to be regarded as merely a formative element, and therefore employed even in cases like *tendo*, where the combination is no longer etymologically appropriate.

An especially large number of these secondary roots cluster round the root *STA*, another very early root in which our consonant *T* occurs. It is found with singularly little change of form (it has become *STHĀ* in Sanskrit where *t* after *s* regularly passes into *th*) and none of meaning in all the derived languages: and the radical sense is also perceptible in nearly all the derivatives: thus *στήμων* is the “upright” of the

¹ *G. E.* p. 65.

² *Et. Forsch.* II. 484, 2 ed.

loom: *sta-bulum*, the place where cattle stand, &c. But there are numerous derivatives, less obviously connected with the idea of standing, from the secondary roots,—all Indo-European—STAL, STAV, STAMBH, &c.—STAL is affirmed by the Gk. *στέλεχος*, our “stalk,” the German *stiel*: in *στελλω* the sense is apparently causal, and *præ-stol-or*, is “I place myself in front of another;” the etymological sense however being so far lost that in the earliest times we know the verb is found with an accusative: and it was probably a revival of the feeling of the derivation that connects it with a dative in the writings of Cicero. From STAV¹ we have *σταῦρος*, and *stiva*: the Homeric *στεῦμαι* seems to connect itself with this root more naturally than with any other; as in IL III. 83, where Hector *στεῦται τι ἔπος ἐρέειν*, “is steadfast to speak;”—the meaning found in Sk. *sthāvara* and the Gothic *stiviti*, “endurance.” The derivatives of STAMBH are not easy to distinguish from those of a simpler form STAP, which has furnished Sanskrit with the causal of STA and is the base of the Latin *stipare*, and the German *Stift*, our “stub;” but the stronger form is seen in Sk. *stambha* a “post,” Gk. *στέμφυλον*, pressed olives or grapes, and German *stampf* and *stampfen*², our “stump” and “stamp.” The primary meaning of STAP would seem to have been to “cause to stand,” or “support”: that of STAMBH to “press”—but the close resemblance of the two forms as well as of their meanings has caused confusion in several of the derivatives.

The very remarkable root TAK is admirably described by Prof. Curtius³: it has varied in some derived languages into *TEK* and *TOK*: and it has also a by-form *TUK*, occurring both in Sanskrit and Greek, and another by-form *TIK*, found however only in Lithuanian; and yet three apparently distinct significations, to “beget” (e.g. *τεκεῖν*), to

¹ Curtius, *Gr. Et.* 192.² *Gr. Et.* 193.³ *Gr. Et.* 57, and 198.

"hit" (τόξον, τυχεῖν), and to "construct" (τέκτων, τύκος), are found in the first two languages indifferently expressed by the three forms, and in Lithuanian all by modifications of *TIK*. I should be disposed to think that the main forms, *tak*, *tik*, *tuk*, are all Indo-European, and probably each at first had its own meaning; but that the formation of several derivatives, very similar to each other in sense, from the different roots, led to confusion between those roots in the very earliest times.

P.

(Ind.-Eur. *P* = Sk. *p*, *ph* = Gr. *π* = Lat. *p* = Goth. *f*, *p* = O. H. G. *f*, *b* [the latter in the middle of a word] = Lith. *p*.)

A root which has played a large part at least in the Greek and Latin languages is *PAR*. It is Indo-European, for it occurs though not often in Sanskrit in the sense of "bringing over," only Vedic¹: also in the Gothic *farjan*, with the same sense, the German *Fahrt* and other words, and our "way-farer." But it is in the Greek and Latin that this root has been most fertile, and produced the largest variety of meanings. The sense of Sk. *piparmi*, and Gothic *farjan*, is found in *περάω*, so common in Homer (e.g. *Od.* xv. 453) for "carrying over sea for sale;" and this connecting link justifies us in connecting with this root *πιπράσκω*, *πρίαμαι*, *ἐμπορος* and others. The simple idea of "crossing" is found in *περάω* used as a neuter verb, *πόρος*, *πορθμός* &c.; *portus* and *porta* are also purely local: *πεῖρα* (for *περ-ya*) and *periculum* mark the transition to the world of abstract conception, and *ἐμπειρος* and *peritus* are applied to the man who has "gone through" many things.

The root *PA* to "protect" had already given the Indo-

¹ Benfey, *Sk. Dict.* s. v.

Europeans the word *patar* a "father"—easily recognisable in every derived speech. It also produced *pati* a "master," which we find unaltered in Sanskrit, in Greek as *πάσις*—and the Latin *potis*, *compo(t)i*s, *potior*, &c., are clearly to be referred to the same root. So also is the second part of the compound *δεσποτης*, whatever may be origin of the much disputed first syllable¹.

An Indo-European preposition *apa*, "off," "from," may be pretty confidently assumed as the basis of Sk. *apa*, Gr. *απο*, Lat. *ab*, Goth. *af*, German *ab* (in which changes Grimm's law is justified), the Scotch *aff* and our "off" or "of." In most other prepositions there is so much variety both in sound and sense in the different languages that identification is very difficult and uncertain; as indeed was to be expected from the wear and tear by constant use of such small words. But this seems to me one of the strongest reasons for rejecting the ingenious theory of Pott—at least in the wide application which he gives it—that numberless roots and words are formed out of simpler roots preceded by a mutilated preposition in composition with it. Relying on the unquestionable fact that such mutilation is found extensively in Sanskrit words and even roots—thus for example it can hardly be doubted that *dhyai* "to think" is from *adhi+i*, "to go over" on the analogy of *adhi-gam* "to go over" or "read," and that *tyaj* to "leave" is from *ati+aj* to "cast over" or "away,"—relying also on the fact that this principle of corruption has undoubtedly operated in modern languages: thus e.g. "bishop" has been cut down from *ἐπίσκοπος*; and "pistola" is the modern Italian for *epi-stola*; on this evidence he throws this process back to Indo-European times. The lawfulness of this method has been strongly denied by Prof. Curtius²,—principally on the grounds that such analytical formations of words

(Pott's theory of secondary roots—formed from primary roots by a preposition which was afterwards mutilated.)

¹ Gr. Et. 256.

² Gr. Et. 82.

are foreign to the character of an early people: and that as a matter of fact the connection between a prefix and verb in the oldest time was not so intimate as to combine them together into one word, the slighness of the connection being felt even after the separation of languages, as is proved by the agreement of the Greek and Sanskrit in placing the augment and the reduplicated syllable *between* the prefix and the verbal base. To these and other arguments Pott replies¹ with great animation, and I think with some success. But his method is more open to objection when he applies it to the derivation of isolated Greek and Latin words, where there are cognate derivatives from the suffixed root, and where the preposition itself is somewhat dubious. We may grant the great probability and wonder at the ingenuity of such derivations as *πικρῶ* from *ἐπι+εζω* "I sit upon";² of *φιδίτιον* the Spartan word for the common weal from "*φιδίτης* i.e. *assessor*, from *ἐφίζω* for *ἐπι-ίζομαι*";³ and admit even the possibility that *πίθος* a "wine-jar" may be from *ἐπι-θε*, "to set upon;" because in all these and many other cases our analysis leads us to a preposition which we know to be a Greek preposition, and to roots which are Greek roots. But the case is very different when Prof. Pott derives, for example, the Latin *piscis*⁴ from the Indo-European preposition *api* which is the Greek *ἐπί*, and a root *chhad*, which is purely a Sanskrit weakening of original *SKAD*, whence comes the Gothic *skadus*, Germ. *schatten*, or "shadow." *SKAD* meant to "cover," and *piscis* is supposed by Prof. Pott to be the "over-covered" with scales, the *squamigerum genus* of Lucretius. This, of course, is possible; but the derivation lacks every element of certainty. The preposition *api* is generally supposed to appear as *ob* in Latin: but this is very doubtful, and in any case the form *ob* would not suit the present

¹ *Et. Forsch.* II. 320 et seqq.² *Ib.* I. 514.³ *Ib.* I. 572.⁴ *Ib.* I. 515.

derivation: and the existence of *skad* in Latin can scarcely be assumed as certain from a possible derivative *castrum* for *skad-trum*: while a simpler form *SKI*, which would certainly be much more suitable for our need, and which does appear in the Greek *σκιά*, does not seem to have any representative whatever in Latin. We must then deem this derivation, together with many others of this most ingenious etymologist, to be "not proven."

G

Ind.-Eur. *G* = Sk. *g*, *j* = Gr. *γ* = Lat. *g* = Goth. *k* = O. H. G. *2. Soft momentary sounds.*
k, *ch* = Lith. *g*, *z*.

Turning now from the hard to the soft consonants we find that *G* occurs in some of the most important roots of the common speech. Examples are hardly needed to shew the extent to which the roots *GA* and *GAN* to "produce" have spread their branches through every language of the family. In all of these the radical meaning is plainly discernible. But (Secondary roots formed by the addition of a final vowel.) it is remarkable that not only *GAN* but also the closely connected form *GNA* to "know" can also be traced through all the derived languages, and there can be no doubt that the Indo-Europeans had definitely separated the two roots to denote one the physical, the other the mental operation. *GNA* appears as *JNĀ* in Sanskrit, *ΓΝΩ* in Greek—*GNĀ* (*gnarus*), *GNŌ* (*gnosco*) in Latin; in all these we see the long vowel, which however may be only accidental similarity: the Lith. *znati*, the O. H. G. *knau* and our "know," agree in keeping the vowel after the compound consonant: but the Gothic *kunnan* and modern German *kennen*, show that the difficulty of the sound led to transposition of the vowel; while it commonly caused the loss of the first consonant in Latin, as in *nomen*, *narrare* = *gnari-gare*, &c., and among

the Greeks (who objected less than the Italians to initial groups of consonants) in *δνομα* for *δ-γνο-μα*¹.

¹ Not *γνομα*, as Prof. Key thinks we are driven to assume, in his attack on the "prosthetic vowel" (*Philological Soc. Trans.* 1862-3, p. 155). This "prosthesis" seems to be one of the enormities of the "German School of Linguistic Science." No doubt the principle may be applied too often; but surely Prof. Key himself would not deny the existence of such euphonic vowels, which will be discussed in a later lecture. His derivation, however, of *ὄφρυς* from *οπ-φρυ* = "eye-brow" on the analogy of *ὄφ-θαλμός*, instead of regarding the *ο* as prosthetic, is ingenious and certainly possible.

The well-known essay of Prof. Key, to which I have here referred, contains much that every philologist must sympathise with, who does not believe Sanskrit to be the one guide to philology, and Sanskrit forms to be the ultimate forms. In this I quite agree with Prof. Key. Thus he justly ridicules the enormous list of roots found in Bopp's Sanskrit Lexicon, to each of which is assigned by Indian grammarians the idea of "going." But no sound philologist would now take one of these mysterious roots and apply it at random to the derivation of some isolated word in another language which may contain no other trace of the root in question. These roots are at best only Indian, and it is quite possible that further investigation of the Sanskrit may lead to differentiation of the meaning of such of these roots as are real roots, and not the invention of Indian grammarians, just as in Greek we can distinguish shades of difference between the roots *Ι*, *ΒΑ*, *ΣΕΠΙ*, &c., all of which have the general signification of going, but, originally at least, of going in a particular way. No doubt in Bopp's Sanskrit Lexicon there is no discrimination between these roots; and Bopp and his immediate followers may have employed them unwisely in etymology. Further, no doubt, many of Bopp's speculations as to the origin of suffixes are pure speculations, and though perhaps as probable as any other, yet essentially incapable of verification. But why does Prof. Key consider all the labours of the "German School" to be summed up in the hypotheses of Bopp? Apparently because Max Müller has said that Bopp's Comparative Grammar "will form for ever the safe and solid basis of Comparative Philology." This may be the slightly exaggerated expression of reverence for the Newton of linguistic science—though it is certainly true of the grand principle of affinity of languages which Bopp was the first definitely to establish. But certainly Prof. Max Müller does not ignore the modifications, extensions and corrections of Bopp's theories which have been effected by the labours of men like Benfey, Curtius, Corssen, Schleicher, and hosts of other German scholars. And to regard Bopp as the final authority of the "German School" on all questions of language seems to me much the same as it would be in a review of the discoveries of physical science to disregard all later investigations, and to regard all scientific questions as bound up with the corpuscular theory of light because Newton believed it.

The origin of the final *a* in secondary roots like GNĀ is very uncertain. They are not uncommon: thus in Greek we have *τᾱ* by the side of *ταλ*; *δμᾱ* by the side of *δαμ*, &c. Schleicher seems to hold a convertibility of position for the vowel: that it can be sounded before or after the last consonant at pleasure: while the new root form was taken, if wanted, to express a new idea (as in the case of *γνω*), in others, where no such want was felt, the two roots were used indifferently. Benfey would rather regard the final *ā* as produced by accent falling on the connecting-vowel between the root and verbal-termination, e.g. *gan-ā-mi*, which forced out the radical vowel and formed thereby a practically new verb ready to bear a different sense. In either case, the vowel would be produced by phonetic, not dynamic causes.

The presence of *G* in an Indo-European noun *bhaga* is probable from the Gk. *φηγός*, Lat. *fagus*, German *buche*, our "beech," and presumably the Gothic *boka*, a "book," originally signified the tree which supplied the material. There is no Sanskrit equivalent; therefore the antiquity of the word cannot be called certain. That the word has different meanings—in Greek, the "oak," in Latin and Teutonic, the "beech" is well known. The reason has been discussed by Prof. Max Müller in a very interesting appendix to the fifth Lecture of his second series. He ingeniously suggests that "the Teutonic and Italic Aryans witnessed the transition of the oak period into the beech period, of the bronze age into the iron age, and that while the Greeks retained *phēgos* in its original sense, the Teutonic and Italian colonists transferred the name as an appellative to the new forests that were springing up in their new home." The great antiquity thus claimed for the Aryan settlement in Europe of course seems at first (as it seemed to Prof. Max Müller) to condemn this theory: but really we know nothing of the date of the settlement, and cannot therefore disprove the hypothesis on

dō(tī)s, *dōnum*, &c. may be due to vowel-intensification—the Lithuanian is *DU*. The Slavonic keeps the short *a* unchanged: in the Gothic and German the root does not appear. It has not been fertile in any language of derivatives which express anything beyond the radical idea.

A more interesting root is *DIV*¹, which originally no doubt meant “to be bright,” though this sense is not found in any derived language. In Sanskrit *DIV* means to “play”—possibly a derived signification, or perhaps the two roots were originally distinct—but the original sense is retained in *DYU*, where the *v* seems to have passed into the cognate vowel, and then *i* passed into its corresponding semi-vowel, the reason being probably that *v* could not easily be sounded before suffixes beginning with a consonant: whence e.g. *div-ti* passed into *dyuti*; compare *ὕποφαντις* from root *ΦΑ F* (above, p. 41, note 1). And a root *DIV* in the sense of brightness, is abundantly evidenced by the numerous Sanskrit words for “sky” and “day” derived from it,—*div-a*, *div-asa*, *div-ana*, *dina* (perhaps shortened from *divana*), &c. The same meaning “day” is found in the Latin *dies*, and compounds such as *nu-dius*, *biduum* (= *bi-d(i)u-um*); and the Lith. *dėva*. The conception of God as “brightness” is universal among the Indo-European peoples. Thus the Sk. *deva*, Greek *Δε(F)ος*, Latin *deus*, Lithuanian *dėvas* and Norse *ttvor*, all come from this root: and seem (with the exception perhaps of the Norse form) to be formed by the same affix. As the word means “God,” and that only, in all the languages, it seems more probable that the conception of Deity was primarily that of “the bright one,” than that the word meant first “bright,” then “the sky,” and then, like the Sanskrit *Dyaus*, (by one of those mistaken metaphors which, as Prof. Max Müller has shewn, lead to so much mythology), passed finally to the idea of God: indeed the distinction between the sky and God, is

¹ Curt. Gr. Et. p. 213.

at least as old as the old word for the "sky father," which parted into the Sanskrit *Dyaus-piter* and the Latin *Jup-piter*. Lastly, Prof. Curtius is probably right in attributing to this root the curious Homeric forms *δέατο*—"he seemed" (*Od.* vi. 242)—and *δοάσσατο* (*Il.* xiii. 458, &c.), just as *δέελος* (*Il.* x. 466), *δῆλος*, with the by-form *διάλος* (= *διF-αλο-ς*) mentioned by Hesychius, are certainly from it: all alike have lost the primary sense of "appearing brightly," and retained the general sense of appearing in any way. The affinity of the two verbs was recognised by Buttmann¹; but he refers them to *δάω*—found in *δέδαα* and *δαῖναι*—to "teach" or "learn," which seems much less satisfactory.

(Speciali-
sation of
roots.)

The process here assumed, by which a root with a meaning originally *special*, has in certain derivatives lost that narrower sense and retained a perfectly general meaning, is exceedingly interesting. It has been already mentioned (note to p. 48): and one of the most interesting chapters in Curtius' great work² is that in which he shews that the numerous roots by which the Greeks could denote the general idea of "seeing" (e.g. VID, VOR, SKEP, DRAK, LUK, and many others) meant all primarily to see or look in some very special way; and whilst one set of derivatives from each (including the simple verb) retained only the colourless meaning of seeing, others in each case remained faithful to their original sense. Thus *ιδεῖν*, *ὄραν*, *σκοπεῖν*, *δρακεῖν*, *λεύσσειν*, to a Greek all meant simply "to see:" and yet *Fiδ* must originally have expressed seeing with some kind of recognition, whence *vid* in Sanskrit and *οἶδα* in Greek came to mean "to know:" For "to look with care" retained its old sense in *ῥα*, Latin *vereor* and our "warden:" *σκεπ* "to look out eagerly" is still vivid in *σκοπός*: *δρακ* "to look bright" has its full force in *δράκων*: and a similar sense may have originally belonged to LUK (whence a strengthened stem *λευκ* gives us *λεύσσω*

¹ *Lexilogus*, p. 212.

² *Gr. Et.* pp. 90.—96.

and λευκός) which gave the Latins *lu(c)men*, *lu(c)na*, and us our "light."

If we pass from roots to words, we shall find the fact that the Indo-Europeans were not mere nomad shepherds but settled in fixed abodes, established (as is well known) by the appearance among so many of the peoples of the same word for a home. Then *dama-s* is attested as the original form by the Sk. *damas*, Gr. δόμος, Lat. *domus*, and Slav. *domu*: while the Gothic *timrja* a "builder," the German *zimmer*, and our "timber," are all probably akin. We cannot of course infer that the houses of that time were built of timber: rather timber was in its primary signification, "building material."

B.

7 Original B ought on the analogy of the other soft consonants to be represented by Sk. *b*, *bh*, Gr. β, Lat. *b*, Goth. *p*, O. H. G. *t*, and Lith. *b*. But it is very remarkable that there are hardly any instances where a word can be traced in the required forms through even a few of these languages. There seems to be absolutely no instance where the Gothic *p* occurs so as to correspond to a Greek and Latin *b*. From this Grassmann concludes¹ that *b* (at all events as an initial sound) was not in use before the separation of languages (an exception being made in the case of some obviously onomatopoeic words, as Gr. βλήχω, Lat. *balo*, Germ. *blöke*, Slav. *bleja*, "I bleat"), and that consequently the words found in those languages with initial *b* must have corrupted it from some other sound. This can be shewn of the Greek and Latin in a great number of cases, which will come under our consideration when we describe the phonetic laws of those languages at length. Thus (to take one or two examples)

¹ *Zeitschrift*, xii. 122.

βαρύς was once γ*Faru*-s, Lat. *gravis*: *βορά* was γ*Fopa*, Lat. (g)*uorare*: in *βούλομαι*, *βελτίων*, and others, the β is a dialectical hardening, difficult to account for, of *v*, while the same hardening in *βρίξα*, *βρέχω*, &c. was caused by the following *r*: in *βροτός* and others the β is parasitic and sprang up between μ and ρ (*μροτός*), the first of which it afterwards displaced: lastly, initial *b* is sometimes a corruption of *bh*, as in *βρέμω*, and the Lat. *balaena*, where the Greek exhibits *φάλαινα*. Grassmann has, I think, shewn fully that *b* was not originally ever used at the beginning of a word: and the only plea which Schleicher can put in for asserting its use at all, is that it is assumed by the aspirate *bh*, which is later, and yet certainly Indo-European: and the improbability of its not belonging to the original speech, while it is yet found in all the derived speeches. With this somewhat unsatisfactory title to house-room, I must leave it to your generosity to accept it.

LECTURE IV.

INDO-EUROPEAN ALPHABET (continued).

FROM the hard and soft unaspirated momentary sounds or "checks," we pass to the aspirates. Here we find the assumed aspirates of the original speech are not represented in the derived languages with nearly so much regularity as we have hitherto found. The reason is obvious; they are more difficult sounds to pronounce: they are compound, or at least were so originally, consisting of the unaspirated sound followed by a breath, which breath may perhaps, as Prof. Max Müller thinks¹, have differed from the rough breathing or spiritus asper. Be this as it may, it seems fairly certain, as the same authority states, that "neither the hard nor the soft aspirates were originally mere breaths. They are both based on complete contact, and thus differ from the hard and soft breaths which sometimes take their place in cognate tongues." The possibility of this change will come under our notice further on, when we are considering more fully the history of the aspirates in Greek. But we are met here by a difficulty which has been already alluded to. Since the weak aspirates are found in so few of the derived languages—in no

Momentary sounds (continued).
3. *Aspirates.*

¹ *Lect. II. 148.*

one European member of the family; and since the hard aspirates are found in Greek, are we justified in assuming that *gh*, *dh*, *bh*, are the original forms of the aspirates, and not *kh*, *th*, *ph*? This latter view is actually adopted by some philologists in order to avoid the obvious difficulty of deriving stronger from weaker aspirates: and this is by far the weightiest in the list of the arguments in its favour which are stated by Prof. Kuhn¹, and are answered seriatim by Prof. Curtius². But this difficulty is at least in great part removed by regarding the aspirates as compound sounds, which act upon each other like all other combinations. This possibility will be considered when we treat of the Greek aspirates. But if the second member of the compound—the *h*, is really the spiritus asper, the change from *gh* to *kh* is simply an assimilation of the *g* by the *h*, just as *g* is assimilated by the *t* in *actus* (root *ag*). I have however already mentioned that the identity of the *h* with the spiritus asper is denied by Prof. Max Müller³ on physiological grounds which I do not quite understand.

*Did the
original
language
possess
hard as
well as soft
aspirates?*

But may not both classes of aspirates have existed in Indo-European times, as both are found in the Sanskrit? Yet this theory will not entirely solve the problem, for the hard aspirates in Greek correspond generally to the soft aspirates in Sanskrit, and these soft aspirates are not likely to have been weakened forms peculiar to Sanskrit; still the change becomes at least less violent and extensive. This view has been very powerfully supported by Prof. Grassmann⁴. He points out that the soft aspirates of the Sanskrit are found in Keltic, Gothic, Lithuanian and Slavonic, as soft unaspirated letters: also in the same languages the hard aspirates of the Sanskrit appear as hard unaspirated sounds (except in

¹ In his review of Schleicher's *Compendium*, *Zeitschrift*, x. 302.

² *Gr. Et.* 376.

³ *Lect.* ii. 148, and 204 note.

⁴ *Zeitsch.* xii. 82, &c.

Gothic where they are sometimes treated as the Sanskrit hards), but at all events they never appear as soft sounds. Each aspirated sound would seem to have simply lost its breath, but never passed from hard to soft, or vice versa. This difference, he argues, speaks for a different origin of the two classes. Similarly in Latin the soft aspirates of the Sanskrit appear as soft letters, or as *h* or *f*, though *f* is indeed generally a hard breath. Yet in Latin he believes it to have had a weaker sound originally, from its frequent interchange with *b* (as *fui*, but *ama-bam*, *rufus* and *ruber*), and from its being represented by the symbol of the Greek Digamma. In any case this *f* is found only at the beginning of words: and as a general rule the Latin represents the soft aspirate by a soft unaspirated letter. In Greek these soft aspirates appear regularly, as χ , θ , ϕ : but in any case where the aspiration is lost (e.g. *μέγα*, Sanskrit *mahat* for *maghat*) the representant is always a soft, never a hard letter—(thus pointing incidentally to the fact that the Greek aspirate even after the separation was at first a *weak* sound, though afterwards hardened)—while the exchange which we find in Greek between the hard aspirated and unaspirated letter, is mostly confined to the cases where the aspirate corresponds to the *hard* aspirate of Sanskrit: e.g. in Sanskrit we have the root *sphar*, to “vibrate,” in the causal to “throw,” cognate to which is the Greek *σφαῖρα* and also *σπαίρω*, where there is no aspirate: and there is a considerable number of cases where the Greek and Sanskrit hard aspirate are found in correspondence, e.g. *όλοθα* = *vet-tha*. From all this he concludes that the hard aspirates of the Sanskrit existed in the common speech, before the separation of Greek and Sanskrit. Did they exist still earlier? No information can be got from Keltic, Lithuanian or Sclavonian, for in them the hard letters correspond to Sanskrit hard aspirated and unaspirated letters. But in the Gothic he seems to see a distinc-

tion between the Sanskrit hard and soft aspirates: namely that Sanskrit *th*, *dh*, *t* = Goth. *t*, *d*, *th* respectively: thus the Sanskrit termination of the 2 sing. perfect, *-tha* (Greek *θα*) is in Goth. *-t*: the Sanskrit participle termination *-tas* = Gothic *-ths*: while in the cases—which are many—where this correspondence does not hold, and where *th* is found both in Sanskrit and Gothic, he holds the *th* to be a later development of the Sanskrit: which is indeed the principle which other scholars apply to explain the whole class of Sanskrit hard aspirates. On this evidence then from the Gothic he considers the hard aspirates to date back to the times before the first separation of languages.

How then is the confusion in Greek of the two originally distinct classes of aspirates, which the Hindus retained distinct to be explained? Prof. Grassmann¹ considers this phenomenon to be in accordance with the genius of the Greek language, which develops the vowel-system, but allows the consonants to decay. Consequently the aspirates had a tendency to become all hard or all weak. After *σ* they were obliged to remain hard: in analogy with this the weak aspirates at the beginning of words first became hard, whilst those within words remained much longer weak: but finally hardened also.

In all this there seems to me nothing impossible. The evidence indeed supplied by the Gothic is insufficient to carry back the hard aspirates to the times before the separation of the North-Western family of nations. But at least a strong *prima facie* case has been made out for their occurrence before the parting of the South-Western peoples. The question which is left to be decided is this: is the number of words containing a hard aspirate and common to the Greek and the Sanskrit—e.g. *κόγχη* = *çankha*—sufficiently great to force us to believe that they must have belonged to the common lan-

¹ *Zeitschrift*, p. 99.

guage before the division, and not developed in the different languages, after the division, from causes which acted equally on each? In the example given above there is no appearance of any such cause, and the difficulty of believing that the Greeks and Hindus separately aspirated the *k* is greater in this particular case than that of supposing that it was aspirated by their common ancestors. But in a large number of cases we may trace a cause which might easily affect both peoples though not necessarily to the same degree: most important of these is an *s* preceding the hard letter; which we know produced numerous aspirates in Sanskrit after the separation, and which may therefore well have exerted something of the same power in Greece. This would account for coincidences like that between Sanskrit *sphal* and *σφάλω*: perhaps even for the *θ* in *οἶσ-θα*: and other less obvious phonetic influences may well have acted in other places.

Prof. Curtius rejects Grassmann's hypothesis, though doubtfully, on the ground that such questions must be decided not by comparison of a few isolated words in different languages, but by examining the consonantal systems of the languages as a whole: from which he sees that corresponding to the Greek hard aspirates there appear as a rule soft letters in all the other families: and he concludes that it is much more probable that the Greek aspirates should be isolated examples of strengthening soft original sounds, than that all the other languages should have weakened the original hard aspirates so completely as to leave no trace behind of intermediate *k*, *t*, *p*, through which in some cases at least they must have passed¹. I must leave you to settle for yourselves which view you think most probable: and I proceed to point out the occurrence in the early speech of those letters which both parties agree in attributing to it, the weak aspirates.

¹ *Gr. Et.* 376.

GH.

f rare ly

(Indo-Eur. *GH* = Sk. *gh*, *h* = Gr. *χ* = Lat. *h* (initial), *g* (medial) = Goth. *g* = O. H. G. *g*, *k* = Lith. *g*, *z*.)

There has been little change of meaning though much apparent change of form in the derivatives of *VAGH* to "carry." It is the Sanskrit *VAH* (where as constantly in Sanskrit the *h* seems to have driven the media out of the field), the Greek (F)EX, Lat. *VEH* (where the *h* must still have had some guttural sound, or it would not have assimilated itself to a subsequent hard, as in *vec-tum*, &c., and therefore differed from the *h* which the Romans took from Cumae with the Greek alphabet, where it was a weakening from spirants, not aspirates)¹, Goth *VAG*, Lith. *VEZ*. A carriage is *vah-ana-m*, ὄχο-ς, *vehi-culu-m*, ~~vēg-ter~~ *vez-ima-s* (each of the ^{five} languages forming the noun by its own peculiar suffix), the German *wagen* and our "waggon:" and *via* (= *veh-ya*), Gothic *vēgs*, denote a "way" in two of the languages: ὄχλος and *vah-a-ti*, a Sanskrit word for a river, have no parallels in the other languages².

The colour "green" is denoted by words so obviously identical in the derived languages that we must refer them to a common origin, a root *GHAR*; which however is probably distinct from the root of the same form expressing "desire" or "pleasure" which occurs in the Greek *χαίρειν*, Latin *gratus*, German *gierig* and our "greedy³." Thus grass is *χλόη*, and *zole* in Lithuanian: and vegetables are *holera* in Latin and *zel-ije* in Slavonic: and "grass-colour" is in

¹ Corssen, *Ausspr.* &c. i. 47.

² *Gr. Et.* 175.

³ Prof. Max Müller assigns to this root the original meaning of "fatness" (*Lect.* II. 381), Prof. Sonne "light;" and no doubt pleasure is a secondary idea derived from one of these or some other similar notion. The derivation of the Indian "Harits" and the Greek *Χάριτες* from this root (*Id.* II. 369) seems to me very probable.

Sanskrit *hari*, Greek *χλωρός*, Latin *hel-vus*, O.H.G. *grōni*, our "green¹."

Our ancestors would seem to have been troubled by snakes: they had formed from the root AGH to "choke" the noun *aghi* to denote the reptile². This appears in Sanskrit as *ahi*, in Greek as *ἄχις*, Latin *angui-s* (where the radical AGH has, as always in Latin, been strengthened by the nasal; compare *angor*, *angustus*, *anxius*, &c.), and Lith. *angi-s*. The O.H.G. *unc*, an "adder" does not shew the same suffix; *ἔχι-δνα* has sunk to the latter signification: and *ἔγγελος* an "eel" apparently reminded the Greeks of the original snake, but as we know from Aristophanes carried also with it more pleasant associations.

DH.

(Indo-Eur. *DH*=Sk. *dh*=Gr. *θ*=Lat. *f* (initial), *d* (medial)=Goth. *d*=O.H.G. *t*=Lith. *d*.)

This letter is found in many rather curious and interesting roots. One of these is DHA to "milk"—to be distinguished from the same combination of sound which means to "place," and becomes in Greek the important root ΘΕ. Of course it is quite possible that the idea to "milk" may have been expressed simply by saying "to place to the breast:" but this is quite uncertain; the two ideas may have been originally represented by very different combinations of sound which at a time beyond the reach of our investigation, and by the operation of laws which we cannot discover, became identical. At all events for etymological purposes they are practically distinct roots: the derivatives of the one must be kept distinct from the derivatives of the other. In Greek DHA "to milk" is always found with vowel long,

¹ *Gr. Et.* p. 184.

² *Id.* p. 176.

agreeing in the main with Sanskrit in this respect. Thus it occurs in the rare verb *θήσθαι* (e.g. *Od.* iv. 89), and in the same neuter sense as it has in Sanskrit: but in one of the Homeric Hymns (*Ap.* 123) it has the active sense which I imagine to have originally belonged to the root—*οὐδ' ἄρ' Ἀπόλλωνα χρυσόορα θήσατο μήτηρ*. The nouns formed in Greek from the root are numerous, as *θηλή*, *θήλυς*, *τι-θήνη* &c., and probably also the proper name *Τη-θύς*. In Latin it is not quite certain whether *filius* should be attributed to this root, or to BHU (Lat. *FU*) to “be,” because the Latin confusedly represents both the dental and labial aspirate at the beginning of a word by *f*: the former view is taken by Curtius¹, the latter by Corssen²: and there is the same uncertainty about *femina*. But the root has certainly its Latin representative in *felo* to “suck.” In Gothic we find *daddjan* “to give milk” in *Mark* xiii. 17: and *tāu* with the same sense in O.H.G. Curiously Sanskrit seems to be the only language which has applied this root to denote a cow—*dhenu*—obvious as the application might seem.

A rather obscure Greek root ΘΑΦ to “stare,” or “wonder at,” is liable to be confused with the last in consequence of the loss of the final *v*. It does not seem to occur in any other language except in the Slavonic branch³, nor is the verb found in Ionic Greek, except perhaps in *Od.* xviii. 191—*ἄμβροτα δῶρα δίδου ἵνα μιν θησαίαιτ' Ἀχαιοί*—where Bekker's emendation *θεσσαίαιτο* (quoted by Curtius, *l.c.*) seems probable. But in Doric Greek the verb occurs frequently: *θῶσθε τὰς ἀπιστίας* says the Megarian (*Ar. Ach.* 770), and in Theokritus the word is used for going to some sight or show (*ii.* 72, *xv.* 23), and *θᾶσαι* means simply “look!” (*i.* 149), by the process of weakening mentioned above, by which a general idea is substituted for one more vivid and more

¹ *Gr. Et.* 227.² *Kritische Beiträge*, 188.³ *Gr. Et.* 228.

restricted—a process found, I think, more among the less quick-witted Dorians than among the other Greeks: thus in Theokritus *ἔρπειν* (Indo-Eur. SARP to creep) means simply to go (vii. 2, xv. 26, &c.). The nouns however derived from this root are not restricted to Doric, as *θαῦμα* (for *θαF-μα*), *θέα* (for *θεF-a*). *θάμβος* and *τέθηπα*, which seem naturally to belong to this family, are probably better referred to STAMBH already mentioned: just as *stupeo* with the same meaning as *τέθηπα* is referrible to the cognate root STAP¹.

The derivatives of the root DHU to “shake” or “move quickly,” retain the original meaning with curiously different results. In Sanskrit from the lengthened form *DHU* we have *dhūma* “smoke” and *dhūli* “dust.” In Greek ΘΤ gives us *θύειν*, in Homer of rushing winds and streams—the *ἄνεμος σὺν λαίλαπι θύων*, or *Skamandros οἰδματι θύων*; but the same verb was at the same time used of “burning”—apparently “blowing the fire” is the connecting link—and in post-Homeric times *θύειν* is regularly used of “sacrificing.” But the noun *θυμός* seems from the earliest traceable times to have been confined to the movement of the soul: whilst *θύελλα* remained fixed to the earliest sense²; and *θύος* was attached to the derived idea of sacrifice. In Latin *fumus*, O.H.G. *toum*, Slav. *dymu* and our “dust” is still retained for the primary sensuous idea of agitation. But the Slavonic has followed in the wake of the Greek by expressing the soul by *dŭsa*; and the Lithuanian *duma* denotes both thought and soul³.

¹ *Gr. Et.* 198.

² Mr Paley (note to *Il.* xii. 253) connects *θύελλα* and *θύειν* in the sense of motion with *θεῖν* to run and *θοός*, and derives them all from *θεF*. But surely this is impossible. From *θεF* we can get only *θεFω* or *θέω*, not *θύω*. What analogy is there for such a formation? It is of course possible that there may have been two distinct roots, one “to rush,” and one “to burn.” But the ultimate Greek form of each must have been ΘΤ.

³ *Gr. Et.* 234. M. Müller, *ii.* 210.

Perhaps no Indo-European noun has preserved its form so perfectly during all its wanderings as *madhu*. It is the Sanskrit *madhu*, meaning first "honey," then "a spirituous liquor extracted from the blossoms of the *Bassia latifolia*," according to Prof. Benfey's Sanskrit dictionary: in Greek it is μέθυ, with no meaning but wine. The O.H.G. is *metu*, and the old Saxon *medo*—our "mead." The Slav. *medu* and Lith. *midus* seem not to have passed beyond the signification of honey¹. Prof. Curtius takes the primary meaning to have been—a sweet drink. It seems to me more likely that the primary meaning was "honey," and that the North-Western peoples parted from the common stock before the word had got any other meaning; the invention of mead being thus left to our Teutonic forefathers' unaided ingenuity. The word reached its next stage of a sweet, and then intoxicating drink before the separation of the Aryan and South European peoples: and never passed beyond this stage in India, a country where the palm supplies most of the spirituous liquor consumed and where grapes are grown only as a garden fruit². But in Greece, a vine-growing country, the signification "wine" once attained, had driven out all others before the days of Homer.

BH.

(Indo-Eur. BH = Sk. *bh* = Gk. *φ* = Lat. *f* (initial), *b* (medial) = Goth. *b* = O.H.G. *b*, *p* = Lith. *b*.)

Considering the fact above mentioned that B is found in no certain Indo-European root, it is certainly not a little surprising that BH is found in some of the most common, such as BHA "to give light" (the lengthened forms of which have been already mentioned), BHU "to be," and BHAR

¹ Gr. Et. 234.

² Elphinstone's *India*, Vol. I. pp. 10, 14.

"to bear." The derivatives of BHU are too well known and have varied too little from the radical idea to need much description. The derivatives of BHAR are very different in the different languages. Thus while in Sanskrit the primary idea of bearing has passed in the main part of the derivatives into that of "supporting" and "nourishing;" and while in Gothic *bairan* has the secondary sense of "bearing children"—compare the Scotch "bairn;"—in Greek there is no important variant from the simplest sense of carrying except *φóρος* "tribute." In Latin on the contrary the root has been very prolific: beside *fer-ax* and *fer-tilis* we have probably *far* "corn," and *fors*, *for-tuna* &c. that which brings our luck to us¹.

An interesting root is ARBH "to be active:" it appears in Sanskrit as *RABH* which has commonly the sense of desiring; but its most frequent compound *sam-ā-rabh* signifies to "undertake." It appears as ΑΛΦ, to "bring in" or "yield" in the Homeric *ἄνον ἀλφεῖν* and in the much discussed *ἄνδρες ἀλφισταί*, probably "active, enterprising men." In Latin we have *labor* and all its derivatives: in Gothic *arbaiþs* in the same sense, the modern German *arbeit*: and the Sclavonian *rabu* is a "servant²."

While we find little agreement among the different peoples in the terms by which they denote the sun, moon, and heaven—a fact which perhaps may point out to us that the Indo-Europeans lived in a country where man was to a great extent independent of the atmospheric conditions, and not subdued by them,—yet they all agree in their name for the cloud. The Sanskrit *nabhas* is the Greek *νέφος*: the Latin *nubes*, and *nebula*, and the German *nebel* are cognate formations: and the Sclavonic *nebo* is the sky³. This agreement is curious, and rather difficult to explain.

¹ *Gr. Et.* 270.² *Gr. Et.* 263.³ *Gr. Et.* 265.

In the Indo-European *bhratar*, brother, found with slight difference in all the peoples, we see that the suffix *-tar*—found in the Greek *-τερ* or *-ρορ* and the Latin *-tor*—was used before the separation to denote relationship. It is not very easy to see the connection between this use of it and the other more common one to mark the agent. Whether there were originally two distinct forms which by phonetic influence were confused together; or whether *-tar* first denoted the agent, and the different domestic relations were first conceived of as the performance of certain functions (so that *bhratar* meant originally the bearer or supporter, *patar* the protector, *matar* the producer)—is impossible for us to decide. One objection to the latter view lies in the somewhat artificial character of the derivations here given; the conceptions seem on the whole so little obvious or simple. No doubt there may have been originally a score of other words besides *patar* by which a father could be known, and *patar* may have driven them all out of the field by virtue of no superior merit as a conception, but from greater convenience of sound, or even some other more trifling reasons: such an elimination only requires time: and long time must have elapsed between the simple beginnings of primitive man upon the earth and the stage of development which the Indo-Europeans had attained when they first appear in that dim Eastern dawn of what is to us the world's history: and therefore the charge of artificiality against these derivations should go for no more than it is worth. Yet I confess I cannot help suspecting that these words, *patar* and *matar*, denoting as they do one of the simplest and earliest relationships, may possibly have been a legacy received from a still more distant time, remnants of an utterly perished language, brought down in some simpler form, and afterwards fashioned by our forefathers, so as to lose what was strange in their appearance, and be capable of being referred to a known

(Possibility
of some of
our words
being older
than the
Indo-
European
roots).

Indo-European root and suffix. Certainly the first syllable of each word seems marvellously like the language of nature.

I have thus given examples of the nine momentary *II. Protracted sounds.* sounds as they occur in roots and words presumably Indo-European. The protracted sounds, which we now proceed to consider, require less strength and distinctness in articulation. Hence they occur less frequently in roots than the strong explosive sounds which were better fitted to express with firmness and precision the ideas produced by natural objects through the senses upon the mind of a quick and vigorous race. I shall begin with the nasals, because they *1. Nasals.* have a close and obvious connection with the momentary sounds: they were commonly produced, perhaps at first always, in contact with one of those sounds: afterwards they acquired an independent existence. A nasal is produced together with one of the "checks" by simply diverting a portion of the current of air through the nose, and the sound so produced will vary according as the accompanying consonantal check is guttural, dental, or labial: in Sanskrit, which possesses two additional classes of consonants, the palatal and lingual, sounded between the guttural and the dental, each of these classes has its own nasal, distinguished like the other nasals by its own peculiar symbol. Sanskrit has thus five nasal letters, while no European language has more than two, though many have at least a distinct sound, like that of *ng* at the end of English "sing," to express a guttural nasal. The question has already been mentioned whether this guttural nasal-sound is Indo-European. Certainly that language possessed no special symbol for it: and there is no evidence that it could ever stand alone in any ancient language but Sanskrit: in all the others it is only found in contact with the guttural which produced it, as in *ἀγγόνη, angustus*. These two

words together with the Gothic *aggvus*¹ also meaning "narrow" and derived from the same root as the others, might seem to justify us in assuming an Indo-European root *aŋg* (where by *ŋ* I denote the sound *ng*). But no stronger form is found in Sanskrit than *agha*, in the sense of "evil:" and the Greek also has the simpler form AX, *ἄχος*: a later origin must therefore be attributed to the nasal, in this and in similar cases. The most that we can infer is that the sound was becoming recognised before the separation of languages but not yet so fully as to require a definite symbol.

The dental and labial nasals are found unaltered in all the languages. The only variety we find is in the Greek, Gothic, and Lithuanian, which take *n* at the end of a word where the other languages have *m*. The reason is obvious: *m* which is pronounced with the lips firmly closed, requires greater tension of the vocal mechanism than *n*, and therefore was superseded by it.

N.

From AN, "to blow," we have *an-ila* in Sanskrit and *ἄν-εμος* in Greek meaning "wind." Transferred to the spiritual world the Græco-Italian *anemos* becomes *animus*, the spirit, in Latin. The O. H. G. *unst*² is the violent wind, while *ansts* in Gothic denotes favour or grace: so curious is the interlacing of the physical and metaphysical in the derivatives of this root. In Sanskrit *ānana* is the mouth, and then like *os* passes into the signification "face:" and most probably the same meaning is found in *πρὸς-ηνής*, with face turned towards one, *ἀπηνής*, with averted face, *πρηνής*, with face bent forward, *ὑπηνήνη*, the part below the mouth. These

¹ The symbol *g*, to denote the nasal, was of course borrowed from the Greek.

² *Gr. Et.* 275.

etymologies are due to Prof. Benfey, who also connects *prāna*, which in Sanskrit signifies both breath and life, with the Greek *φρῆν* and *φρίντις*.

The severity of the winter in the original home of the Indo-European nations is shewn by their all having the same word for snow: except indeed the Hindu. The original root was SNIGH, which is retained in Sanskrit in the form *SNIH*, but it denotes viscosity, and the derivative *sneha* means first "oil," then "love." The Zend however has the root in its old sense: in Greek the guttural has passed into a labial, and we have *νίφας* &c.: in Latin *ning-ere*, the first consonant being lost as often in Latin: the Gothic for "snow" is *snaius*, the Lithuanian *snegas*. The fact that the Indians alone allowed the word to pass out of its original sense shews that they passed into a climate the most unlike to that of the common father land. Their common word for snow is *hima*, whence *Himālaya*, the place where the snow lies: it comes from the root GHI, which has given the other languages their word for winter, *χειμών*, *hiemps*, Lithuanian *žėma*: the fact that *hima* was used by the Hindus to denote a number of other objects remarkable for whiteness and freshness—such as camphor, the pearl, the white lotus, and fresh butter¹—may shew that snow was to them an object to be admired from a distance rather than an inconvenience under foot. Some general inferences about the climate of our father-land will be found in a note at the end of this Lecture.

The agreement in the word for a daughter-in-law is curious. The Sk. *snushā*, Gr. *νύος*, Lat. *nurus*, and O. H. G. *snur*, and Slav. *snochā*², point to the Indo-European form *snusa*: which may not unlikely have originally been *sunu-sa*, a derivative from *sunu*, "a son" (which is a Sanskrit form from SU, "to beget," whence *νίς* = *su-yo-s*). Indeed the fixity of the less necessary terms connected with marriage shew the firm

¹ Benf. *Lex. s.v.*

² Gr. *Et.* 286.

establishment of the custom among the primitive race. Thus the father- and mother-in-law, the brother- and sister-in-law all appear in the Indo-European vocabulary. On this subject see Pictet, *Origines Indo-Européennes*, Vol. II. 331—375: a book which contains many interesting deductions respecting the physical and moral stand-point of our forefathers, with some rather rash derivations.

M.

The labial-nasal is found in the root MAR, which with its strengthened forms MARD, and MARP—if this latter be really connected with it—is well known from the full and interesting discussion it has received from Max Müller in his second series of lectures. It appears most commonly in Greek and Latin as MOR (or MPO in Greek as $\alpha\text{-}\mu(\beta)\rho\sigma\text{-}\tau\omicron\varsigma$), and mostly restricted to the sense of death. Our “murder” is to be seen in the Gothic *maurthr*.

One of the most important roots in the language is MAN, “to think.” This root indeed, as we have already seen, is only a secondary, modified form of MA, to measure (whence comes *ma-ta* which the Sanskrit grammars give as the past participle of *man*, and *ma-ti* “thought”): but it is undoubtedly older than the time of the separation. In the Sanskrit and in all the North European languages, the derivatives of this verb signify nothing but operations of the mind, as thought and memory: in old German *minna* is “love,” whence the minne-singers. But in Latin the root is applied in its simplest form—*man-ere*—and in Greek almost its simplest— $\mu\acute{\epsilon}\nu\text{-}\epsilon\iota\nu$ —to express what is apparently a much more concrete idea, “to remain.” Which is the primary sense? It has already been incidentally mentioned that the concrete signification of a verb or noun as a rule always precedes the

abstract: for example, VAR meant to "look carefully," before *ᾶρα* (strengthened derivative from *φορ*, whence *ὀρ-άω*) meant "caution," "anxiety;" or *ver-eor* meant "to be afraid." Has then this root reversed the ordinary process? The fact that no trace is left in the Teutonic and Slavonic speeches of any original sense "to remain," is strongly against that having been the primary sense of the root. Probably no root has ever passed from a particular to a general signification without leaving some trace behind in some of its derivatives of its original meaning. How then can we explain this exception to the rule? According to Prof. Curtius¹, the root starting with the idea of "thought" took three main directions: (1) active, yearning thought, as seen in the Homeric *μέ-μον-α*, and also in *μένος*, which at first was active purpose of the soul—the *μένος καὶ θυμός* of the Homeric heroes—and then by association passed into the idea of bodily strength: and the cognate *μαλομαι* (= *μα-γο-μαι*) has the same meaning. (2) excited thought; whence *μαίνομαι*, *μῆνις* and *μάντις*, all denoting the carrying a man out of himself by power of thought; and here, on this theory, come *μένω* and *man-eo*, when a man is so filled with thought that he stands stock-still. (3) backward thought, remembering and admonishing, whence the proper name *Μεν-τωρ*, "the adviser," *Μοῦσα* (i.e. *Μου-σα*, "the teacher"); and the numerous list of Latin derivatives, *men-tio*, *mon-eo*, *mons-trum* (for *mon-es-trum*, the "warning"), *reminiscor* and many others. In *mentiri* and *mendax*² the idea has received a twist. This explanation seems to me the best that can be given of the inversion of the general rule. Prof. Curtius explains in the same way the parallel case of the Latin *mora*, "delay," which stands alone as a concrete noun among the numerous abstract derivatives from SMAR,

¹ *Gr. Et.* 280; see also p. 96.

² On the form of this word, see Corssen, *Kritische Beiträge*, 118.

"to remember," the Greek MEP in μέμνη, &c., Lat. *MOR* in *memoria*.

(Composition of the Indo-European suffixes).

The nasals have played a very prominent part in the formation of suffixes. Prof. Schleicher¹ gives a list of about twenty-five simple suffixes the majority of which can be traced by comparison through the different languages up to Indo-European days. Of these three consist of the simple vowels *a*, *i*, *u*, with no consonant at all. Out of the remaining twenty-two, a nasal is found in eleven; and curiously enough the dental *t* is found in no less than nine. In four the spirants are found, and all the remaining letters of the alphabet in only four others. This would seem to shew a facility of the *t* sound which we should not have looked for: since undoubtedly these suffixes must have been selected out of many other competitors to fill their post because of some proved lightness and convenience of sound found in them, more than in any other part of the mechanism of language. It is possible that one cause may have been the possibility of slurring the *t* sound by turning the tip of the tongue slightly backward against the roof of the mouth instead of pressing it firmly against the teeth: a pronunciation which we may suppose to have prevailed both in Greece and Italy, from the fact that the dentals in Greek and Latin have been much more corrupted than either of the other classes, neither of which admit of any looseness and uncertainty as to the point of contact. This looser pronounciation is also common in England: and in Sanskrit, as is well known, there existed a separate class of letters, called linguals or cerebrals, which in the modern languages of India have almost superseded the dentals, and which are said to be pronounced like our English *t* and *d*, not as full dental checks.

The preponderance of nasals in these suffixes is not surprising: they can be pronounced clearly with less effort

¹ *Comp.* p. 374, &c.

than any other sound except *r* and *l*. Hence we have in frequent cases the suffixes *-ma*, *-man*, and even *-mant*: the last is probably to be assumed e.g. from the identical Sanskrit *nāman* (for *gnā-man*, a "name"), Lat. *no-men*, Goth. *namin*, and even the corrupt Slavonic *i-me*, where the mark under the *e* denotes a lost nasal. So far we have only evidence for a termination *-man*: but the Greek form is *ὄνομαρ*: and as neither *t* nor *n* is likely to have passed into the other, we conclude that the original form was *gnāmant*, and that the heavy termination was lightened in different ways according to the genius of the different languages. We may compare the closely analogous termination *-vant*, which is found in the Greek; e.g. *χαρι-Feвр*. There is no slight contest respecting these suffixes: Prof. Benfey considering them to be all corruptions of an original *-mant* or *-vant*, which he regards as the participial termination; so that nouns were originally participles: a theory which seems supported by such corruptions as those given above, and in which the chief difficulty is to conceive what this *-mant* or *-vant* originally was. The other and more generally accepted theory—held by Curtius and Schleicher amongst others—is that the shorter forms, *-ma*, *-na*, *-ta*, &c. are the elder, and that the longer forms are combinations of these, with the loss of some of the vowels. I incline to the latter view, as far as regards the first origin of these suffixes; but as we find them in the history of language I have little doubt that they are commonly corruptions; the process of degradation having succeeded to that of composition.

We now come to the spirants, or breaths,—Y, S, V. These ² *Spirants*. make up but a small portion of the lists of breaths as found in the physiological alphabet given by Prof. Max Müller¹: but they are all of which there is any trace in the primitive language; the full table having been constructed from the

¹ Lect. II. 152.

different weakenings of stronger sounds in different languages, and not found completely in any known speech. Of these three, *y* and *v* are soft or sonant letters, the first palatal, the second labial: *s* is a hard dental. They have been retained uncorrupted in Sanskrit, and nearly so in the North-European languages: it is in the Zend, which however does not concern us, and in Greek and Latin (especially the former) that they have suffered most. Since therefore a full list of these variations must be given in their proper place, I shall give but few examples here of these sounds in primitive roots and words: just enough to shew that there really were such sounds as *y* and *v*, which would be a matter of great doubt to any mere Greek scholar from the absolute loss of the first letter, and slight traces left of the latter in the earliest stage of Greek. I must premise that the symbol Y will here denote the sound which in all German philological works is represented by J, except when I am quoting Teutonic or Slavonic words, where I am bound to adhere to the spelling of those languages. In writing Latin words I denote the sound *y* by the symbol *i*, as the Italians themselves did; not by *j* as in the older editions of Latin authors in this country. My reason for this is that the sound of our English *y* corresponds to the sound of the original letter, and therefore I thought it better to use it in a book intended for English readers. I have used the symbol J which was thus left unemployed (except in the Teutonic words aforesaid) to denote the Sanskrit *j* sound, as is done in all Sanskrit grammars for English students, while German writers use the symbol *g'* (and *k'* for *ch*)—a practice which certainly keeps before the reader the origin of these palatal letters, but is somewhat inconvenient and unsightly. I must therefore ask you to remember that the Indo-European root YUG, the Latin *iug-um*, and the Gothic JUK all begin with the same sound, our English *y*.

Y.

(Indo-Eur. Y=Sk. *y*=Gr. *ι*, *ε*, *ζ*, ()=Lat. *i*=*j* in all the other members of the family, the sound however being the same.)

The root YUG has given the common term for the "yoke" to all languages. It is the Sanskrit *yuga-m*—which however denotes more frequently a pair, or couple; the Greek *ζύγον*, Lat. *iug-um*, Gothic *juk*, O. H. G. *joch*, Lithuanian *junga-s*. There can be no doubt of the employment of the Indo-Europeans as an agricultural people before the separation. The same root gave the Latins their term for a wife—*con-iux*—compare the Greek *ὀμό-ζυξ*, the acre, *jugerum*, and superlative *iuxta*, i. e. *iug-i-sta*, as Corssen ingeniously explains it¹, comparing *exta*=*ec-i-sta*.

The pronominal stem "who" was formed in Indo-European by this letter *ya-s*. Perhaps, as Curtius suggests², this stem itself was a secondary form derived from the simplest denominative stem *i*="that," Latin *i-s*, by the affix *a*, the radical vowel passing before it into the semi-vowel—this conjecture derives support from the Gothic method of forming the relative by adding *ei* to the demonstrative pronoun: thus *thata* + *ei* or *thatei* is "who." The Sanskrit has kept this pronoun unchanged: the Greeks suffered the spirant to sink into the spiritus asper—*ὅ-s*. The Gothic, though forming its relative by a different rule, seems yet to have kept a trace of the old form in *jabai*='if:' whilst the Slavonic has the form pretty accurately—*ji-s*—but transferred it to the demonstrative. This variety of usage may shew that this secondary pronoun (if Prof. Curtius' hypothesis be true) existed indeed before the separation of the North-Western peoples, but had not yet clearly separated itself in meaning

¹ *Ausspr.* II. 26.² *Gr. Et.* 355.

from the demonstrative: and that the superior logic of the remaining peoples first gave it its distinct restricted meaning. In Greek the consciousness of this *y* remained till the days of Homer—as we find in the Iliad lines ending with *θεός ὤς*, &c., where the apparent irregularity is often explained by a supposed digamma: in truth it probably was no irregularity at the time when the line was first recited, but the sound of the *y* was still slightly heard. This *ὤς* was the ablative case of *ὀ-ς*, and equivalent to the Sanskrit *yāt*, final *τ* in Greek always passing into *σ*: just as by the same loss of the *y*, *ydvat* = “how much,” is found in Greek in the very dissimilar form *ἄ-φος*, Attic *ἔως*.

The most frequent traces of this spirant are to be found in formative and case-suffixes. Thus the original comparative suffix *-yans*—probably once *-yant*, can be traced through the Sanskrit, e.g. *bhū-yam̐s* = more; the Greek *-ιον*, as *κακ-ιον*, though often much hidden by assimilation, of which more hereafter; *-ior*, earlier *-ios*, as *maior*, for *mag-ior*; and even the Gothic *is* = *jas* by a phonetic rule of the language (*i* = *ja*¹).

S.

(Indo-Eur. *S* = Sk. *s*, *sh* = Gr. *σ*, (') = Lat. *s*, *r* = Goth. *s*, *z* = O. H. G. *s*, *r* = Lith. *s*.)

S is preserved in every language in some of the forms derived from AS to “be.” In Sanskrit we have the primitive form: in Greek and Latin it appears as *ES*, (*e*)*s-um*: in Gothic the original vowel is seen as *i*, and this language also (like Latin and Greek) has corrupted the first person into *im*, but kept the *s* in the third person *ist*. The Lithuanian which has preserved the conjugational suffixes with remarkable accuracy still exhibits *es-mi* and *es-ti*. The root no

¹ Schleicher, *Comp.* 479—484.

doubt meant originally to "breathe," though perhaps no language but the Sanskrit has any derivative bearing that sense¹. The root was used in Sanskrit and in Greek to express moral ideas: thus (a)*sat* the participle signifies "true" (really existing) and "good;" and to the same process is probably due the same sense of the Homeric *εὖς* (for *έσ-υ-ς*, the suffix being different), and the common *εὖ*, "well." The correspondence of form and sense between *έρ-εός* and *sat-ya-s* points strongly to their common derivation from this root².

The roots for sewing and spinning—SIV and NADH—(as Mommsen has pointed out³) are alike in all Indo-European languages; though at the same time he denies to our forefathers the further accomplishment of weaving. The former—SIV—is not indeed very recognisable in Greek. Both in Greek and Latin the *i* has been lost, because the *v* was resolved into the vowel *u* (Latin *su-o*, *sutor*, &c.), and therefore one of the two vowels was obliged to fall out; and the root is then probably to be found in *κασσίω* = *κατα-συ-ω*, which is restricted however to the cobbler's stitch.

In the greater number of roots however the *s* must be inferred by the classical scholar chiefly from the kindred languages, as it commonly drops out altogether between two vowels in Greek, and in Latin under similar circumstances passes into *r*. Thus the root US "to burn" is authenticated by the Sanskrit and Zend *USH*, and Latin *US* in *us-tum*. But no nearer forms occur in Greek than the Homeric *εῦω* (for *εῦσω*) "to singe pigs," and *αῦω* "to dry," whence *αῖος* and *αἶχμός*. If, as Prof. Curtius thinks⁴, the root points back to an older form VAS, it may be better to connect with it, as he does, the name Hestia—Vesta—almost the only divinity not Indo-European⁵, yet from the first common to both the Greek and Italian nations—rather than with VAS to "dwell,"

¹ See M. Müller, *Lect.* II. 249.

² *Gr. Et.* 337.

³ *Hist. Rome*, I. 17.

⁴ *Gr. Et.* 356.

⁵ Mommsen, *Hist. Rome*, I. 21.

the root which gave the Greek *φάστυ*, and the Latin *verna*, the house-born slave. The hot wind, *Εὐρος*, and *Auster*, are clearly from this root: the different forms which the vowel has taken will be discussed in the lecture on vowel-intensification. Curtius also connects *ἥελιος* with the same root¹, making the original form of the word *αὐ(σ)έλιος*; then the *υ* either fell out altogether, as in the common Greek *ἄελιος*, or hardened itself into *β* as in the Cretan *ἀβέλιος*. If this be so, as seems in the highest degree probable, there can be no hesitation in identifying with this Greek *αὐσέλιος*, the Latin proper name *Aurelius*, the older form of which was *Auselius*; and very curious in this connection is the old legend respecting the Aurelian family, that they were descended from the sun². The last Græco-Italian word connected with this root is *Ausos*, "the morning"—which became on the one side the Æolic *αὔως*, Doric *αῶς*, Ionic *ἥως* and Attic *ἔως*—where the rough breathing seems to be due, as often, to Athenian Cockneydom;—on the other side, by the addition of a secondary suffix, the Latin *Ausos-a* or *Aurora*. It is a little curious how useless this root remained to the other peoples considering its fertility among the Græco-Italian race; the only exception being indeed that the Hindus also express the morning by a derivative of the root *Ushas*, but as there is no vowel modification, this word must be kept distinct from the Græco-Italian form: and the German *Oest*, and the "East" are no doubt derivatives denoting the morning-land³.

V.

(Indo-Eur. *V* = Sk. *v* = Gr. *υ*, *φ*, (*υ*) = Lat. *u* = *v* in all others.)

Two roots, *VAS* to "dwell" and to "burn," have been already mentioned. Another root of the same form signifies

¹ *Gr. Et.* 357.² *Paul. Epit.* 23, quoted by Curtius.³ *Gr. Et.* 358.

to "clothe." I say another, because although of course it is possible to conceive that one of these significations was developed from another, e.g. that to dwell and to clothe, are both modifications of an earlier sense to "cover;" yet it seems to me, as I have already often said, more probable that the roots were originally diverse, and came into their present common form in times which elude our analysis: at any rate they are distinct roots for us, and their derivatives must be kept distinct. This VAS "to clothe" produced numerous Sanskrit words for clothing: it gave the Gothic *vas-ti*, "a vest:" it has the Græco-Italian form *VES*: which produced *ves-tis* and *Φεσθής*; and is hardly distinguishable in *ἐν-νυμι*, for *Φεσ-νυ-μι*, where the *σ* has been assimilated, or in the Homeric *ἐανός* (*Φεσ-ανο-*), where it is totally lost. Curtius¹ connects with the same root the similar word *ἐᾶνός*, which as Buttmann has shewn², is regularly used in Homer as the epithet of a garment, and with the penultima long. Buttmann does not suggest any derivation, but wishes (I think justly) to separate the word from *ἐννυμι* and *ἐανός*, on the ground of the insufficiency of meaning in such phrases as *πέπλος ἐανός*, where some more distinctive epithet is to be expected. May the word have meant "woven," and been derived from a simpler form of the root which produced the German *weben*, our "web"? That there must have once been a root without the final consonant seems proved by the Sanskrit *VE* "to weave," perhaps by the Latin *vio* "to bind," or "hoop," together with its derivatives *vitis*, *vimen*, *vitta*, &c. The sense suggested would, I think, suit all the passages in Homer where the word occurs, except that in which it is the epithet of tin; *Τεύξε δὲ οἱ κνημῖδας ἐανοῦ κασσιτέροιο*³: but the word is there commonly translated "flexible," and this secondary sense might fairly be derived from the first.

¹ *Gr. Et.* 338.² *Lexil.* 238.³ *Il.* XVIII. 613.

The pastoral occupations of the Indo-Europeans are shewn—among many other indications by the perfect identity in the different nations of the name for the sheep. The original *avi* is unchanged in Sanskrit, Lithuanian and Gothic (for though the actual word does not occur in this last language, it is proved by the derivatives *avethi*, “a flock,” and *avistr*, “a fold”). The Græco-Italian *ovis* has been affected by the differentiation of original *a*, to be described hereafter. Pictet suggests¹ the connection of the name with the root AV: which primarily meaning to give ear, attention—whence *audio* and very probably the Doric word *āiras*, which gives name to the twelfth Idyll of Theokritus²—then in Sanskrit at least took a secondary sense of protecting: so that *avi* should mean the creature to be attended to, both from its weakness and its value. This of course amounts to no more than a plausible conjecture.

The almost absolute loss of this spirant in Greek would make the identification of words of the same or similar meaning in Greek and Latin impossible but for the help of the cognate languages, especially the Sanskrit. Thus we should scarcely think of identifying *íos* with *virus*, did not the Sanskrit *visha* supply the missing link in the chain which leads us back with certainty to the form *visa*, which was in use before the separation of the three peoples, though as *virus* shews, not in any sense necessarily worse than an ill-tasting fluid. The Greek *íos*, the arrow, would seem to be due to the simple root I, from comparison with the Sanskrit *i-shu*, which is formed with a different suffix.

Lastly, *v* was useful in some formative and case-suffixes. Thus the form *akva*, “a horse,” is visible in all the derived languages—hardly perhaps in *ἵππος*, which is yet identical with *akva*, the labial spirant having assimilated the guttural

¹ *Origines Ind.-Eur.* i. 357.

² *Gr. Et.* 346.

k into the labial *p*, which then in turn assimilated the *s*. Similarly the fuller forms *-van* and *-vant* existed in the Indo-European, parallel to *-man* and *-mant*. The second *-vant*—corrupted to *εντ* and *οτ* in the Greek—*χαρι-Feντ*, and *τερυφ-Fοτ*: in Latin the change was even more complete, if Schleicher¹ is right in tracing the termination *-oso* in *fructuosus* &c. from *-vant* or rather a secondary *vant-a*, which became by changes common enough in the Latin *-vonso*, *-onso*, *-oso*.

Finally, we have the liquids to consider, R and L. I 3. *Liquids*. have already mentioned that there is some doubt whether L be as old as the days of the one common speech. R is a stronger sound, demanding a much more constrained position of the vocal mechanism than L; it is produced farther back in the mouth, and we shall see afterwards that a consonant is stronger, the higher it is sounded in the air-tube: from which we must infer in any case where the age of the two letters is doubtful, that L is the younger sound. I may add the well-known fact that many children are unable to sound R, and substitute the easier sound L for it. And historical facts point to the same conclusion. L is much less frequent in Sanskrit than R, the Hindus having retained the R in many cases where in the European languages it has passed into L: thus the root of brightness and whiteness RUK, is still *RUJ* in Sanskrit, but *LUK* in Graeco-Italian—*λευκός* and *luceo*. Still I shall have some roots to mention below where L is found universally; and there is much reason for believing that the change had begun to operate even before the separation of the peoples, but not to any great extent, if we may judge from the proportion which L bears to R in Sanskrit, remembering that some at least of the L sounds must have arisen after the separation. I

¹ *Comp.* p. 403.

shall take R first, mentioning a few cases where it is found in all the different languages.

R.

The first and most obvious root with this letter is AR. This root¹ gives the Greek ἀρόω, Latin *arare*, Gothic *arjan*, the old English “to ear,” and Lithuanian *arti*—all meaning to plough. But this sense though universal in Europe did not belong to the Asiatic languages. In spite of the identity of sound, the Sanskrit *ar-i-tra*, does not correspond in meaning to ἀρόω, but to ἐρ-ετ-μο-; at least ἐρετμός and Latin *re-mus* (for *res-mus*) mean the oar, while the Sanskrit noun denotes the rudder, which was no doubt originally only a large oar. It is of course conceivable that in Sanskrit also the root once meant to plough, and then ceasing to be used in its literal sense, signified only to plough the sea. But it seems more likely that the two ideas of ploughing and rowing are special applications of the more general idea of propelling. The Greeks and Latins were then enabled by their greater vowel range to distinguish these different ideas by different forms of the original root: the original form *AR* was retained to express ploughing: but as original A could be split up into *a*, *e*, and *o*, *ER* was taken to denote rowing. The same kind of differentiation is seen in the Lithuanian, which has *irti* to row, beside *arti* to plough. It is probably due to the half vowel-character of the sound *r* that the vowel appears after it in Latin *remus* and *ratis*: less difference of sound was caused here by the transposition of the vowel than in the case of any other consonant; the current of breath required, so to speak, to float the consonant, is so very small. Schleicher’s hypothesis that this transposition is

¹ *Gr. Et.* 306.

generally permissible, that we may assume, e. g. a root *KA* as well as *AK* "to be sharp," seems to me doubtful¹. The third form of the root is to be found in the Graeco-Italian *OR* "to be uplifted," in *ὄρωρα* and *orior*. The identity of this root with the older *AR* is shewn by its occurrence in Sanskrit—weakened it is true in form to the single Sanskrit vowel *ri*: but such tenses as are formed directly from the root come from *AR*: still this slight difference of form served to keep the roots distinct. This root had also the *L*-form in Latin—*ad-olesco*, *sub-ol-es* &c.: perhaps also *abolere*, where the sense would be causal, to lift up and cast away.

There are two other roots—identical in their Graeco-Italian form *VER*—"to speak," and "to look cautiously," which were once *VAR*, for that form is preserved in each case by the Gothic; but the difference in meaning is strong against their identity. Neither of them occurs in Sanskrit; a fact which is not surprising when we consider that *VAR*—the form under which each must have appeared—is already engaged to express the three ideas of covering, surrounding and choosing: all of which may possibly have come from one sensuous idea, such as putting the hand on a thing; from which the first and third idea would naturally be derived, and the second may have been deduced from the first: but the ideas expressed by *VER*, which must in any case have been distinct from those expressed by *VAR*, were unable to maintain themselves under the same form as their stronger rival: the ideas therefore were expressed by other sounds, and these forms failed out of the language. The second root, "to look cautiously," became in Greek *Fop*, and therefore so far distinct from the first root: but both roots by the loss of the spirant became undistinguishable from the roots *ER* and *OR* already mentioned: and no further

¹ It has been assailed by Prof. Benfey (Göttingen *Gel. Anzeige* for 1865, p. 1376).

vowel-change being possible, confusion was inevitable. Thus while we have from *VER* "to speak," *verbum* in Latin, and *vaurd* in Gothic—our "word"—from the older form *VAR*, the Greek can shew us only *ἐρεῖν* and *ἐρέσθαι*. Similarly *VER* "to look cautiously," the Latin *vereor*, from the older form of which we get our "ware" and "ward," in the newer Greek form appears only as *ὄραν*, and in several nouns, as *ὄρα*, *ὄρος* a "watcher," and its compounds *ἐπίουρος*, *φρουρός* and *φρουρά*.

Indeed a curious fatality seems to have brought together for the Greeks as many different ideas as possible under the same sound *OR*. The name for a mountain—*ὄρος*—has no certain congeners in other languages: but the Sanskrit *giri*, and the Slavonic *gora*¹, make it probable that the loss of initial *g*, which though rare yet does occur in Greek, has caused the confusion in form between this word and the derivatives of *OR* and *VOR*. Before the *g* entirely passed out of the Greek it probably was changed in one derivative at least by means of a parasitic *v* to *β*: thus *βορέας* "the north wind," would be the mountain-wind; and the Hyperboreans instead of being dwellers beyond the north-wind, would occupy a more conceivable position "beyond the mountains"—the natural dividers of mankind in early times. Again, *ὄρος* "a boundary"—the Ionic *οὔρος*—is almost identical in form with *ὄρος* "a mountain"—for the rough breathing is perhaps only an Attic mispronunciation; but the derivation of the word is very doubtful: if it be from the root *SER* "to draw"—whence *εἶρω* and *σειρά*, "a rope"—in the sense of a "line drawn"—compare the Latin *ser-ies*, "a row"—the breathing will then be the regular representative of the lost spirant. Lastly, *ὄρός*, "whey," gives us a third identical form; where we know the missing letter to have been

¹ *Gr. Et.* 312.

s from the Latin *serum*: and the similarity of sense and sound leads at once to the Sanskrit *sara*: which is derived by the Indian grammarians from *sri* (SAR) "to go:" a somewhat inappropriate derivation, as Prof. Key has truly pointed out, for a word which denotes, besides whey, a pond and salt (ἄλς, *sal*, and *salum*); whilst *sarīt*, said to come from the same root, means a river. Probably derivatives from different roots have been here confounded: and whilst *sarīt* may be assigned to SAR "to go," ὁρός and the rest may be better referred to another lost SAR, identical in form, but differing in sense; but what that sense was, we cannot say.

L

This letter suffers no regular change in the different languages. In modern languages indeed it passes into *r* as easily as *r* into *l*. But in the early stage of language with which we are dealing, every *l* is presumedly weakened from older *r*. I have said before that it is much rarer in Sanskrit than in the European languages. I shall briefly give one or two examples where it occurs in Sanskrit also, in order to shew what claims it has to belong to the original alphabet.

LAS¹ is found in the Sanskrit *LAS* to embrace and *LASH* to desire: in the Doric λάω to wish, where the *σ* has fallen out: in the common Greek λῆμα, and λι-λα-ί-ομαι; probably also in λαν; in *las-civus*; and in Gothic *lustus*, desire, "lust." In the Bohemian dialect of the Slavonic *laska* is love. In all these the connection of form and idea is sufficiently plain.

Another root with a double form LIBH and LUBH, to desire, appears under the second form, with the derivative *lobha* covetousness. It is the rare Greek verb λίπτομαι,

¹ Gr. Et. 324.

whence *λελιμμένος μάχης* used by Aeschylus in the Seven against Thebes (l. 380); the Latin has both forms *lubet* and *libet*, the former presumably the older, according to the scale of vowel-strength in that language: in Gothic *liubs* is "love:" the O.H.G. has *liuban* to love, and that which man loves, *lob*, praise: the Lithuanian and Slavonic present the root under the same form and with the same meaning as the German: and our own language gives us "lief," dear.

In these and some other cases *l* is found universally. It is of course possible that the weakening may have taken place in Sanskrit and in the other languages separately. The independent action of the European and Asiatic families in this matter is shewn by the fact that sometimes though very rarely Sanskrit has *l* while the other languages have *r*: thus Sanskrit *lup* = Latin *rup* (in *rumpo*), O. H. G. *raubon*, Gothic *raupjan*, the Scotch "roup" and our "rob." This certainly points to a later origin of the *l*: and on the whole, though I think there is much to be said in favour of its claim to Indo-European honours, yet the evidence seems to me not to prove more than its great antiquity.

*Concluding
remarks.*

I have thus given examples of the occurrence of all the certain consonants of the Indo-European alphabet, except *B*, in roots and words presumably Indo-European. These examples must have already made plain the existence of the three original vowels *A*, *I*, *U*. The vowels *E* and *O* have also occurred frequently in European derivatives: sometimes also in Sanskrit words, where however their position is quite different: they are there always long, and are the first intensified forms of the simple vowels *I* and *U* respectively, corresponding to *ai* and *au* in the original language. In the other languages *ě* and *ǝ*, are, as has been already mentioned, weakened forms of *A*. I shall not here describe these vowel-changes further, and their effect on the different languages, in the way in which I have to some

extent described some of the more remarkable consonantal changes in the languages of India and North Europe, because the investigation, if fully carried out, would lead us too far away from our subject. The vowels are the soul of a language: in the laws of their change the principles of growth of the whole language are involved. This will be seen in the examination of the vowel-laws of the Greek and Latin, to which we shall presently pass.

The examples given above have been selected with the object of shewing as far as possible the Indo-European methods of forming secondary roots, and also nominal and verbal bases (or themes as they are sometimes called), by the addition to the root of formative suffixes, such as *-tar*, *-ma*, *-man*, *-mant*, *-vant* &c.: by attaching one of these, e.g. *-man*, to a root, as *gnā*, we get *gnāman*, a nominal base—that is a form which by the addition of a case-suffix becomes a veritable word. I call *-man* a formative suffix in order to distinguish it from case-suffixes, e.g. *-as* of the genitive, *-i* of the locative, or personal-suffixes, as *-mi*, *-si*, *-ti* &c., which are attached to verbal bases, just as the case-suffixes to nominal bases. Many more examples of each kind might have been given; as the formative suffix *-ka* (in Greek *-κο-s*, Latin *cu-s*), which has been supposed, on account of the identity of sound, to be the pronoun *ka* already mentioned, but, as I think, on no sufficient ground; the suffixes *-ta* and *-na* which are used, the former regularly, the later more rarely, to form the perfect participle of the passive: these are found so regularly in use among the different peoples that we must refer them all to a common origin. The same is true of the case-suffix *-bhi*, which is found in the Greek so-called adverbs *νόσφι*, *ἰφί* &c., the Latin *tibi*, and *ibi*, *ubi* &c. A full list of both classes of suffixes is given in Schleicher's *Compendium*; to give them here does not fall within the plan of these lectures, which deal in the main with the

phonetic, not the formative part of language. But I have given these few instances to shew, as I said before, that there was a real Indo-European language, not a mere list of naked roots to which the name Indo-European has been given. The examples given suffice to shew that this language had reached the second stage of linguistic progress, that stage in which different relations were no longer expressed, as in the Chinese, by adding to the root a new significant root. For this purpose suffixes were employed, syllables whose original meaning had passed away, which were therefore all the better qualified to meet the logical wants of a people which had attained to a very considerable degree of cultivation.

Still more beyond my present scope is any description of the physical and moral development of our ancestors; except so far as any light has been thrown by the above examples on the conditions of place and climate under which they lived, on their domestic life, on their social institutions, and on their conceptions of an unseen world. Full information on all these points is to be obtained from Pictet's elaborate work already referred to, the *Origines Indo-Européennes*: and the English reader may find a brief but excellent sketch in the second chapter of Mommsen's *History of Rome*, which is especially valuable to us because it not only describes the condition of the collective family, but also estimates the stage of development at which the Graeco-Italian race had arrived at the time when it had parted off from the Northern and Eastern peoples, but had not been broken up into the Hellenes and Italians.

NOTE ON LECTURE IV.

I mentioned above that nearly all the nations agree in their term for snow. The examples of agreement in the words denoting cold might be considerably increased. The severity of the Indo-European winter, which is inferred from them, suits well with the country which has been assigned by conjecture to our forefathers; "central Bactria, the mountainous part extending from the Hindoo Koosh to the plain of the Oxus¹." This conjecture is confirmed by the fact that next to winter the most numerous analogies are to be found in the words for spring. One of the numerous Sanskrit names for spring is *vasanta*; the first part of this word is found in the Greek *ῥαπ* (for *ῥεσ-απ*), in the Latin *vēr* (for *veser*), the Lithuanian *vas-ara* (but meaning "summer"), the Slavonian *ves-na*, and the Scandinavian *vār*. This agreement is too great to be accidental; there can be no doubt that *vasa* or *vasara* was the name which the Indo-Europeans gave to the welcome spring which followed the five months winter of their high mountain home. Its meaning is very doubtful. There are three distinct roots of the same form, *vas*, which have been already mentioned; but none gives a satisfactory meaning: the best perhaps is that which means "to clothe;" so that spring should be the re-clothing of Nature: but this may be thought fanciful. But in the names for summer we find hardly any agreement. Each nation had its own name. The Sanskrit *ushma* and Latin *aestas* are both the "burning time," but from different roots: the Greek *θέρω* is from a different root again, and implies only warmth. The Irish *sam* or *samh* may be akin to the German *Sommer*, of uncertain derivation; and these therefore have the best claim to having preserved the original term. This want of agreement is probably rightly explained by Pictet: in temperate climates summer is but a continuation of spring, and is less striking to the senses; hence the different peoples replaced the one primitive name—if indeed there were not already more than one in those early days—by distinct appel-

¹ Pictet, *Orig. Indo-europ.* i. 97.

lations of their own, suitable to the climate of their new abodes. Autumn offers us absolutely no analogies; it is not until the latest subdivision of the peoples that we find names for it occurring among these nations who required the term. For some never needed it, as the northern peoples: for them the old division sufficed, which separated distinctly only winter and spring, with summer considered as a continuation of the latter; the German peoples lost the old name for spring, and the Lithuanians, as we have seen, applied it to summer; both therefore parted with the old slight distinction. The Hindus strengthened it, and at an early period subdivided the three seasons, making them six, to suit the Indian climate and periodical rains; while the Greeks and Romans found the want of a name to denote the "later season," but not till they had separated, when the Greeks called it by no more distinctive name, *ὄπ-ωρα*; for practical purposes in their splendid climate finding it sufficient to divide the year into *θέρος* and *χειμὼν*; the Roman "auctumnus" was developed on Italian soil.

As Pictet well points out¹ the Indo-European division of the year, besides corresponding well to their supposed country, also harmonises with what from other sources we know of their employments. With a people mainly pastoral the second natural division of the year is the time of the return of the flocks for winter quarters. And when an agricultural succeeded to a pastoral age, no further distinction was required because the grain is harvested in summer. A separate term for a fourth season does not become necessary until the time of the cultivation of fruit-trees, especially of the vine.

¹ *Orig.* i. 107.

LECTURE V.

DYNAMIC CHANGE.

WE have now ascertained what were the sounds of the original language, which modified in different ways became the framework of the different languages of the Indo-European stock. We might therefore at once proceed to investigate the changes peculiar to the Graeco-Italian division—the main subject of these lectures. But at the risk of wearying your patience, and exposing myself to the charge of incoherency, I shall ask you to allow me, before we pass to phonetic, to set before you one or two examples of dynamic change. It is desirable to do so, because without knowing something of the operation of the formative principle in language, it is difficult, and sometimes almost impossible, to keep its results distinct from the mere corruptions produced by the destructive principle. This confusion is only possible among the vowels; the consonants are unaffected by dynamic change: and in languages where the vowel-system is almost perfect, where, first, the vowels in the main vary each in its own scale (so that, for example, from a root whose vowel is *a*, a derivative is rarely formed with the vowel *i*, as is the case e.g. where *ἴππος* is formed from *AK*); and where, secondly,

Dynamic change to be briefly considered in order to distinguish its results from those of phonetic change.

the diphthongs are preserved uninjured, so that the different steps of vowel modification can be kept distinct from each other—in such a language, I say (and such a language is the Greek) there is little fear of confusion. But this is far from being the case with the Latin. That has neither retained its diphthongs, nor kept the vowel-scales with anything like regularity. Therefore in treating of the most complex vowel-system of the Latin I should be adding a new difficulty to those which are inevitable, if I did not give you some clue by which to distinguish between those variations which were primarily the result of design, and those which arose from indolence in articulation. I could not well do this till we had settled the stock of sounds with which we were to start: and it seems advisable to do it at this particular place, first, because the changes due to this principle are much fewer and simpler, and a knowledge of them will clear the way for the better understanding of the more complex problems of phonetic change; secondly, because the principle of growth must have originally preceded the principle of decay, in spite of the fact that in every speech amidst the greatest amount of corruption, new forms are still constantly produced by the inexhaustible vital force of language, nay often with vigour proportionate to the amount of loss to be supplied; yet still creation must have come first in order, and therefore it should naturally be considered first. Of course I do not purpose here to give any sketch of the general formative system of language—of the process by which a root grew into a base, and a base into a noun or verb. This growth is by accretions *from without*, and is always easily distinguishable from the processes of phonetic change. What I wish to do is to describe some of the methods by which a root could be modified *from within*; not how e.g. the root ΠΙΘ could by adding a formative suffix become *πιθ-avo-* and *πιθavo-* grow into *πιθανός* and *πιθανότης* and *πιθανόω*; but how by mere

modification of existing elements $\pi\iota\theta$ could become $\pi\epsilon\iota\theta$. Here without such knowledge confusion would be possible.

Now the two principal methods of this modification of a root, without introducing any new element, are Reduplication and Vowel-Intensification. At first sight it might appear as though reduplication must be called an external modification. Undoubtedly a further syllable is added to the word: but absolutely no *new* element is added: $\mu\alpha\rho\mu\alpha\rho\iota\rho\omega$ (which is for $\mu\alpha\rho\text{--}\mu\alpha\rho\text{--}\gamma\omega$) introduces no new idea to modify the old one; the old one is but expressed twice over, till it gets a new association. Indeed vowel-intensification—the process by which $\pi\iota\theta$ becomes $\pi\epsilon\iota\theta\omega$ —might more fairly seem to us the introduction of a new element, did we not remember that ϵ represents an original α , that is, that the seeming new element was at first but an addition of modified breath which gave a greater intensity to the radical vowel, when it came to be sounded at its proper place in the vocal tube.

It is true that from the nature of Reduplication there is not much likelihood of its results being confused with those of phonetic change, except in the case of roots which begin with a vowel. But these two methods of strengthening the root are so closely connected, that it is hardly possible to treat of the one satisfactorily without the other. This is not the case with a third method, called nasalisation, by which e.g. FID became *fi-n-d-o*, and $\Lambda\Lambda\Theta$, $\lambda\alpha\text{--}\nu\text{--}\theta\text{--}\alpha\nu\text{--}\omega$. This variation of sound seems at first sight to bear so exact an analogy to the strengthening of the vowel already mentioned: e.g. as $\pi\iota\theta : \pi\epsilon\iota\theta :: \textit{fid} : \textit{find}$; and this use of the nasal is so exactly in accordance with the view given in the last lecture of its origin, that it was primarily a mere thickening of another sound, not itself a distinct sound, that it might seem that there need be no hesitation in adding nasalisation to the methods already mentioned of strengthening the simple root. But when we examine more closely we shall see so

*The principal methods
— Reduplication, and
Vowel-Intensification:*

*possibly also
Nasalisation.*

much irregularity in the position of the nasal both in Sanskrit, in Greek and in Latin, that we cannot help feeling some doubt whether after all it was not primarily a verbal suffix, which afterwards in certain cases slipped inside the root. Thus, for example, though we have *scindo* in Latin from *SKID*, yet in Greek we have *σκιδ-νῆ-μι*, and *σκεδ-αν-νυ-μι*: is the *n* in the Latin form the remnant of an affix *na* or *nu* which has been displaced? This is quite possible. I think it cannot be denied that there has been some displacement. But the opposite view is also possible: that from the endeavour to avoid the massing of consonantal sound late in the word, which was unsuited to the peculiar liquidity of the Greek language, the *n* in *σκινδ* was passed on; that *σκινδ-μι* became *σκιδ-να-μι*, the new vowel being essential to sound the *n*, if indeed it did not exist as a connecting vowel before the transposition. The lengthening of the second syllable may have been caused by the accent having at one time fallen upon it. We have then to decide which is the most probable of these two possible hypotheses: by the first the nasal is only mechanical, part of a grammatical suffix; by the second it is dynamic. I incline to the latter; a further argument for which is the fact that in Sanskrit and Greek this nasal is found only in the present tense and those immediately connected with it: and the same thing is true of those roots which are strengthened by raising the vowel to a higher step in the scale: this harmony seems to bring the two phenomena under the same head: the meaning of the fact will be explained afterwards. Though this rule is not observed in Latin, yet there are traces of its having been so once: thus we have *fra-n-go*, but *fregi*, *fractum* (ῥήγνυμι, ῥήξω, ῥηκρός): then the strengthened stem began to supersede the other, partly as in *pungo*, *pupugi*, but *punctum*, wholly as in *iungo*, *iunxi*, *iunctum*. This argument however loses something of its force from its being applicable to other verbs which have their present

strengthened by undoubted formative suffixes, e.g. *ya*, as *καλώ* (for *καF-yo-μι*), where the future is *καύσω* (for *καF-σω*), and the second aorist *ἐκά(F)ην* with no trace of the suffix; or *sko*, as *βόσκω* and *pasco*, where the suffix is also confined to the present.

In the absence then of positive certainty as to the nature of this nasal, I shall not describe the usage of it further, confining my attention to the two other undoubted methods of strengthening the simple root.

Reduplication.

This is probably the earliest, certainly the most natural, method of expressing greater intensity of feeling. But for this very reason, because it is the earliest, the traces of it in Greek and Latin are smaller than those of the other more refined and subtle methods of producing the same result, which have gradually superseded it. These traces are, as might be expected, most common in words which are obviously immediately onomatopoeic: e.g. *ἀλαλάζω*—*ululo*, &c. And indeed the greater number of examples adduced by Prof. Pott¹ to prove the wide extent of this principle are derived from the Tataric or Oceanic speeches. In the ever-varying languages of savages, based almost entirely on *conscious* onomatopoeia, Reduplication is almost the only method employed to strengthen the expression of an idea. Thousands of examples are given by Pott. So also with children; every one must have observed how naturally they form a language of their own on this principle: with them a watch is not a watch but a tick-tick, a railway-engine is not a railway-engine but a

Reduplication the oldest and simplest method.

Evidence of this derived from the language of savages and of children.

¹ In his book called *Doppelung als eines der wichtigsten Bildungsmittel der Sprache*, in which the question is treated in the most thoroughgoing and most unreadable way.

puff-puff. No doubt much of this is the traditional language of the nursery; but this is no real objection: it shews at least that a child apprehends ideas most easily under these forms. The first word which a child utters, *mama*, is a proof how natural it is. If it be objected that the barbarous dialects of savages and the semi-articulate lisplings of children can supply no arguments for a scientific treatment of language, I do not admit this without modification. To argue on the etymology of particular words in some speech which has for centuries been, comparatively speaking, fixed by being the medium of a literature—to connect these with similar words in savage languages, is I admit unscientific and dangerous. But surely we may base general principles of language on a numerous array of linguistic facts and methods of constructing words observed in innumerable savage dialects. And if there be any tendency shewn by such observation, it is the tendency to reduplication. Can we doubt that *mama* is the name for mother which comes first to the infant's lips in other lands besides our own? Whether or no there be any truth in the physiological explanation of the fact given by a learned German, that the lips of the infant are strengthened before any other organs by suction, and therefore it produces most naturally the labial sounds in *mama*, *papa*, *baba*, I will not stop to enquire: it seems not improbable. But the fact remains. Do we suppose that a Roman baby made his debüt in conversation (with Catienus), *Mater te appello*? And if it be said that *mater* really *was* the Roman word for mother, and not *mama*, no doubt it was in the Roman literary language; but I do not believe it was in the Roman child-language. And if that child had never been taught the literary language, he would probably have gone on calling his *mater*, *mama*, just as savages do who have no literary language. The child and savage in this respect stand on precisely the same

footing; and are just the examples we need to shew us what are likely to be the first steps of any language before it has reached its literary stage.

The fact that with us English the word *mama* is so often retained side by side with *mother*, may perhaps be explained by the fact that there is perhaps no other modern European people which shews so much tendency to (partly onomatopoeitic) reduplication. Consider not merely the interjectional *ha ha*, *tut tut*, *hoity toity*, but also phrases which in some cases obviously arose from imitation of sound, though others shew at least at present no signs of such derivation. For example, *ding dong*, *jingle jangle*, *tittle tattle*, are obviously onomatopoeitic: but such derivation is less clear in *knick-knack*, *slip slop*, *riff raff*, *harumscarum*, *hugger-mugger*, *hurly burly*, *hotchpotch*, *tag-rag*, *humdrum*, *helter skelter*, and numberless others, which any one can supply for himself. I shall confine myself to examples of reduplication taken from the Greek and Latin: these will be most familiar to you, and the principle, if proved for one language, is proved for all.

In the Greek and Latin then we may with tolerable certainty trace the process in the imitative names of birds, &c. Thus we have *cuculus*, *turtur*, *ulula*, *urupa* (ἔρουψ, τέρτιξ, *κακκαβή*), and many others, where the name is expressive of the sound produced by the creature: other words express sound in general, as *tintinnabulum*, "a bell," but there are few such words in Greek or Latin languages which retain small traces of the savage period. But Prof. Pott is probably right in thinking that he sees a relic of this principle in that fondness for alliteration which prevailed so much among the early Latin poets, Ennius, Nævius, and Plautus. They conceived that their idea was more fully expressed by repetition of the same syllable or syllables, even though the sense was not clearly and directly intensified, as in the case of reduplication. How curiously they laboured at this process

General traces of the principle: Reduplication in imitative words,

and in alliteration.

may be well seen in the really remarkable fragment of Naevius, from the *Lycurgus*,

Alis sublime alios saltus illicite ubi
Bipedes volucres lino linquant lumina.

In these two lines the syllable *al* occurs twice, *li* six times, *bi* twice, *es* twice, *in* three times. And yet the alliteration is so cleverly managed by reproducing the same syllable generally in different parts of the words, that in a rapid reading we are only conscious of a general harmony of sounds very pleasing to the ear. It is only on close examination we perceive how artificial the process has been. *Summa ars celavit artem*. Commonly however the effect is much more obvious: in Plautus it is exceedingly frequent and generally without much reason; no end seems to be served by it: it has become apparently a mere *trick of composition*. Lucretius also has much of it, and it harmonizes well with his simple style; e.g. in his description of Sicily, as “multa munita uirum ui,” or in the well-known line, “mortalem uitam mors cum immortalis ademit” (III. 867)—which indeed is rather an instance of an idea wonderfully intensified by reduplication than of alliteration. Even Virgil did not altogether disdain the artifice. In his

Non patriae ualidas in viscera uertite uires

a certain strength is no doubt given to the line by the hammer-like beats of the *v* sound. Alliteration is found much more rarely in the Greek poets. Yet a perfect and most effective example may be borrowed from the artificial Alexandrian school in the well-known and exquisitely beautiful lines of the Epitaphium Bionis¹:

αἰαὶ ταὶ μαλάχαι μὲν ἐπὰν κατὰ κᾶπον δλωνται
ἦδὲ τὰ χλωρὰ σέλινα τό τ' εὐθαλὲς οὖλον ἀνηθον
ὑστερον αὖ ζῶοντι καὶ εἰς ἔτος ἄλλο φύοντι·
ἄμμες δ' οἱ μεγάλοι καὶ καρτεροὶ οἱ σοφοὶ ἄνδρες,

¹ Moschus, III. 101—106.

ὅππότε πρᾶτα θάνωμες, ἀνάκοι ἐν χθονὶ κοίλα
εὐδομες εὐ μάλα μακρὸν ἀτέρμονα νήγρετον ὕπνον.

To begin with the last line: clearly much of its matchless length and strength is derived from the double *εν*, the double *μα*, and the fourfold *ον*. I am speaking of course only of the artificial helps, and not ignoring the power of the simple wording. But a careful examination will shew that much more of the melody of the entire passage is due to artificial aid. First of all the passage—naturally in consequence of the simile—divides itself into two equal parts of three lines each. The leading note of the whole is the syllable *ον*: it occurs in every line but one, eleven times in all. But in the first two lines of each half the syllable *αν* occurs—once in the first line, once in the second, once in the fourth, twice in the fifth, but not in either the third or the sixth. In each half the *αν* dies out by degrees, making way for the *ον*, which reigns triumphant in the last line of each. Now it is quite true that *A* is an older and stronger vowel than *O*: but in Greek, as we shall hereafter see, *ο* in consequence perhaps of its broader sound is constantly used as a stronger modification of *α*, which may have been a weaker sound than the Indo-European *A*, perhaps not much stronger than the Sanskrit *a*. Therefore the change from *αν* to *ον* in this passage is a rise in the scale of sound, marking, as I believe, the rise in the intensity of the pathos. And as if to point this out more clearly, the poet whilst commencing the first clause with *αι* four times, in the corresponding line of the second clause has written *οι* five times, repeating it again twice at the end of the fifth line, after which we have neither *αι* nor *αν* again. Nay, even though this may be fanciful, I cannot help thinking that the writer meant to give the key at the end of the first line, where we have the ascending sound, *αν*-, *ον*-, *ων*-, the last not occurring again. Be this as it may, the general principle is, I think, unmistakeable, though it is

so subtle that I for one had read the passage many a time before I perceived it.

*Slight
traces of
the forma-
tion of su-
perlatives.*

These examples of alliteration are no proof of the use of reduplication as a formative principle, but they shew the natural bent of the human mind to intensify an idea by repetition of sound. I now pass on to cases where we find reduplication employed to intensify either the quality or quantity of particular words and roots. Here we might most naturally expect to find it in the formation of the superlative; and such is indeed most common in savage dialects. It is also found, though not as a rule, in Sanskrit, e.g. *alpa* is little, and *alpālpa* is very little. But if it ever existed in Greek and Latin, it has entirely passed away before historic times, when we find the requisite increase of idea expressed by formative suffixes. Yet even in them, as Pott has pointed out, a lingering feeling of the possibility of the process is seen in such words as *τρισμέγιστος*, *τρίδουλος*, and the Latin *triscurria*. Here we have reduplication, or triplication rather, in the spirit if not in the letter. A savage would have said *δουλοδουλοδουλος*. The more cultivated Greek could express the same idea with more dexterity. A further example is to be found in the rather artificial compound used by Callimachus in his very beautiful epitaph on Heracleitus,

ἀλλὰ σὺ μὲν που,
ξείν' Ἀλικαρνασσεῦ, τετράπαλαι σποδίῃ.

A sort of reduplication again may be seen in the very common *οὐδείς οὐ*, *νημο νημ*, &c. These are all superlatives: in all these it is intended to express the strongest affirmation. And though here the reduplication is certainly not of the reason, since one negative drives out the other, yet currency was probably given to the expressions by the fact of their coinciding with the popular love for repetition of the same sound.

Far more important for us, as entering more widely into the building up of the languages, are the traces still to be found in Greek and Latin of the systematic reduplication of primary roots to produce frequentative and desiderative verbs, and more rarely nouns. In Sanskrit such verbs are regularly formed from every root, by reduplication. Thus *BUDH* is a Sanskrit root meaning "to know:" *bobudh* (or *bobudhya*) denotes "to know frequently," or "to know well" (i.e. is either a frequentative or intensive verb), *bubodhisha* is "to desire to know." It will be observed that in two out of these three verbs affixes *ya* and *sa* are added, over and above reduplication; but it cannot be proved, and is not very probable, that when so employed they were ever significant. What their primary signification was is now uncertain—at most recoverable only by guess-work; and it is more likely that when they were first thus employed they were purely formal, mere grammatical machinery. The spirit was in the reduplication. Turning now to Greek and Latin we find—besides such onomatopoetic verbs as *λαλαγεῖν*, *mur-murare*, and many others—intensives or frequentatives, for one signification often runs into the other, thus formed; as *μαρμαίρειν*, "to flash," from *MAP*, originally to rub, and so to smooth down, polish. Similarly *παμφαίνειν* is an intensive of *ΦAN*: the whole root is repeated, and the aspirate changed to the hard, and the dental nasal to the labial nasal according to rule. So also *γαργαρίζειν*, "to gurgle," from *ΓAP*, "to swallow" (the Lat. *VOR* for *GVOR* in *carni-voru-s*, *vora-re*, but also *gul-a*, *glu-tire*, &c.): compare the Latin *gurgulio*. Likewise *ποι-πνυ-ω*, "to pant," from *ΠNT*, "to breathe;" *δειδίσσομαι* from *ΔI*, "to fear," *μεμνησκειν*, and the Latin *me-mor*, *memor-ia*, &c. from a root which in Greek took the forms *MAP* *MEP*, and *MOR* in Latin, but which is to be referred back to an Indo-European *SMAR*: the Sanskrit alone has retained the *S*: thus *μεμνη-*

*Regular
formation
of frequen-
tatives or
intensives.*

ρῖζειν is "to be careful," intensified from the simple root which means "to remember."

It will be observed that in many of these examples the reduplicated syllable is strengthened; as in ποιπνίω, δειδίσσομαι, and many others that might be cited—παιπάλλω, δαιδάλλω, the noun λαιλαψ, "whirlwind," from ΛΑΒ, "to seize," and others. In these there is little doubt that the feeling of their origin survived until historic times; that men were conscious in using these words that they were employing intensives, and felt their relation to the simple root. But there are others where we find the reduplicated syllable weakened, as in μερμηρίζειν and *mě-mor*; in κίκιννος, "a curl" (compared with the Latin *cincinnus*, whence *Cincinnatus*). In all such words the feeling of their origin was gradually passing out of the minds of men; the emphasis had ceased to be laid on the reduplicated syllable, as it must have been at first when it was the significant part of the compound; and hence the syllable became weakened. This is a good illustration of the change which passes by degrees over all language; that which was originally formative loses its signification, and becomes only mechanical: the living principle passes out, and deadness comes on. And this brings us to a numerous list of verbs where this deadness is almost perfect: in some the intensive or desiderative force has merely died out; in others the no longer significant form seems to have been used to express a different idea. Such verbs are μῑμέομαι (Greek root ME, Indo-European MA, "to measure"), which seems originally to have signified "I frequently measure myself," and thus, in a restricted sense, "to measure myself by some one, to copy or imitate;" where the frequentative force is perfectly lost. The Latin *imitor* and *imago* are not improbably blunted forms of *mi-mitor* and *mi-mago*¹, and so formed originally on the same principle

¹ See however Corssen, *K. B.* 252.

from the same root, which is found in *me-tior*, and strengthened in *mensa* and *mensura*. As *μιμέομαι* stands by regular phonetic change for *μι-μα-γο-μαι*, it exactly corresponds in form to *bo-bhud-ya*, mentioned above. In such verbs as *διδάσκω*, *ἀπαρίσκω*, &c. the intensive force seems not only to be lost, but a causal sense to have taken its place—unless indeed they are to be explained as desideratives—the terminational *σκω* corresponding to the *sa* of *bubodhisha*, so that *ἀπαρίσκω* should mean, “I desire something to fit,” *διδάσκω*, “I desire some one to think;” but this is not very probable. It is however also possible that these forms may be accounted for by another application of the same principle which I have been illustrating—an application to which we owe a very large and important class of verbs both in Greek and Latin. Such verbs are, e.g. *δίδωμι* and *τίθημι* in Greek. In these verbs it will be observed that reduplication is found only in the present tense, and the closely connected imperfect; not in the future *δώσω* or the aorists *ἔδωκα* and *ἔδων*, whilst the reduplication of the perfect is different in its nature: whereas in the intensives, which I have instanced above, the reduplication passes through all the tenses, although their occurrence is not frequent. In fact, in them the reduplicated verb is practically a new root; in these others the reduplication is an accident of the present tense. How is this difference to be explained?

Reduplication employed to distinguish protracted from momentary action.

All language must of course be able to distinguish the incomplete from the complete stage of action, the “is doing” from the “is done,” the *γίγνεσθαι* from the *εἶναι*. But this distinction is not sufficient to express all our conceptions with sufficient clearness. In describing an incomplete action we require often to express whether the operation is over in a moment or requires time; whether it is momentary or lasting—to distinguish the “I do” from the “I am doing,” the *γενέσθαι* from the *γίγνεσθαι*. Thus then we have three

stages of action, so to speak: the Momentary, the Protracted, the Completed. And each of these stages ought in a perfectly logical language to have its own three subdivisions in time, the past, the present, and the future. That is, it should possess nine forms produced by internal modification of the root, with the help of such suffixes as have lost their original signification, and have become mere parts of the machinery of grammar; not by periphrases, as in seven out of nine times in the forms by which the English denotes the nine distinct ideas; thus:

	<i>Present.</i>	<i>Future.</i>	<i>Past.</i>
MOMENTARY.	I do.	I shall do.	I did.
PROTRACTED.	I am doing.	I shall be doing.	I was doing.
COMPLETED.	I have done.	I shall have done.	I had done.

Unfortunately, historical investigation of the development of language shews that in the early stages of growth inflections, derivatives, and the rest of the stock of grammar, are not formed to meet previously felt logical needs. The order of the process is just reversed. A language develops endless inflectional and formative suffixes which are vague and undefined in their meaning. It is only later, when the need for more accurate expression is felt in consequence of the development of thought and feeling, that these forms found ready to hand are taken and restricted to the expression of distinct logical categories¹; still not so entirely but that some in every class refuse to be bound by the restriction, and retain their old free but indefinite meaning. An example

¹ Compare Curtius, *Comp. Philology and Classical Scholarship*, p. 20.

will make my meaning plain. Take the numerous derivative Greek and Latin verbs in *-sco*. These are commonly called Inceptives; and the majority do denote the beginning of an action. But there are very many, and those apparently very old verbs, in both languages where there is no inceptive meaning to be seen, neither are there any traces that it ever existed. Such verbs are *βόσσω, φάσσω, θρώσσω* in Greek, *pasco, nascor, &c.* in Latin. These are in use quite simple verbs, whatever the origin of the suffix may have been. And it is most probable that this suffix and many others existed before the need for inceptive verbs was felt, with a vaguer meaning, which partly for that very reason, partly through lapse of time, is not now discoverable. Such instances force us to believe that the changes of form in language are not to be explained by reference to an arbitrary list of logical ideas; and consequently—to return to our present subject—we shall not expect to find in any language exactly the same number of forms as that of the above-mentioned categories. Most languages possess far fewer: some few (especially the Greek) have more, but these new forms differ for the most part from the old only in being produced by formative suffixes, whereas the old were not: e.g. the first or weak aorist, the weak or active perfect, the first passive future; these do not express any new idea. The Sanskrit possesses nearly all the forms, and the traces of them which exist in the German language lead us to the belief that they were Indo-European. But the Hindu differs from all other people of the stock. He was not as the Greek or as the Roman. The genius of the Hindu people was contemplative, dreamy, mystical—not logical, as that of the Greek¹. Accordingly

¹ Thus the Hindu could brood over an idea: for example, he could believe firmly in the immortality of the soul at a time when any such idea was put forth by the best of the Greeks with stammering lips. In the *Bhagavadgītā*, the genius of the Sanskrit language for variety of expression, enormously rich

the Sanskrit has preserved nearly all the grammatical forms which we find in Greek. But it has preserved them with little trace in common use of that nice distinction which we always find in Greek usage. How then are these distinctions of time and order preserved in the Greek? How did they succeed in distinguishing by simple modification of a root, the momentary, the protracted, the complete performance of that which the root expressed? Principally by means of that which will form the second point of our description of the growth of language—by Vowel-increase or intensification. For example, take the Greek root $\lambda\pi$; it denotes "to leave momentarily." By increase of the vowel ι to $\epsilon\iota$ we get $\lambda\epsilon\iota\pi$, "to leave during a protracted time." Increase again to $\lambda\omicron\iota\pi$, and we get the completed action. Thus $\epsilon\lambda\pi\omicron\nu$, the aor. = "I left at a particular moment;" $\lambda\epsilon\acute{\iota}\pi\omega$ = "I am leaving," as a continued action; $\lambda\acute{\epsilon}\lambda\omicron\iota\pi\alpha$, "I have left and done with it." It cannot indeed be asserted that this vowel intensification is thus applied quite regularly in all cases; but this variation will be considered in its proper place. Nor again is it the only method by which to express the greater fulness of idea involved in protracted as contrasted with momentary action; or, in grammatical phrase, to strengthen the Present Stem. Reduplication is also used for this end; and so we get back to the verbs $\delta\acute{\iota}\delta\omega\mu\iota$ and $\tau\acute{\iota}\theta\eta\mu\iota$, which occasioned this long but necessary

though it be, seems almost insufficient to express the intensity of the poet's belief. "Unborn, unchangeable, eternal, old of days," he cries, "the spirit dies not with the dying body....Like as a man casts aside vestures worn with age, and takes to himself others new: so casting aside its worn-out bodies, the indwelling spirit enters yet new ones....Impenetrable is it, unconsumable, unfusible, unwasteable; enduring, all-pervading, firm, unshaken, eternal; invisible, inconceivable, unchangeable." We shall not find anything like this in Greek: the strength of the belief is all Indian. But it is quite possible that a Greek would have expressed such belief as he possessed more logically: for logic is one of the many gifts for which the world has to thank the Greeks: the logic of the Hindu has never spread beyond India.

digression. Take *δίδωμι*; the root is ΔΩ, found in *δόςις*, *δοτήρ*, &c. This has been already strengthened to *δω* in the momentary tenses, the mom. fut. *δώσω*, the mom. past, i.e. the aorist *ἔδωκα*; consequently to express the protracted present and past, i.e. the imperfect, we require a new method; which is reduplication, and we get *δίδωμι*, *ἐδίδουν*. There is no permanent future; *δώσω* being regarded as sufficient to express both instantaneous and continuous action. Similarly there is no perfect future; we must have recourse to the periphrasis *δεδοκῶς ἔσομαι*. In verbs in *ω* however we find this future in the passive—the future which rejoices in the mysterious title *Paulopost*. Thus *λελεύφομαι* is exactly “I shall have been left.” To form all the tenses of the completed stem reduplication is again employed, distinguished from that of the protracted by the vowel of the new syllable, which is always *ε*: and so by analogy this method crept into use even for those verbs whose stems were already distinguished by the subtler method of vowel-increase, as *λε-λοιπ*: a fact which shews that the meaning of vowel intensification must have been fading out of the Greek mind. Owing to the great length of this tense—*δε-δωκ-α-μι*—the termination fell off without any compensatory lengthening of the connecting vowel being felt to be required, as it had been in the present of the protracted stem. One verb however in Attic forms the completed present with long *ω*, probably from its shortness, *ἦκω*, “I have come;” and they are common in Doric; thus Theokritus uses *δεδύκω*, *πεφύκω*, and many others. The momentary present is not found in Attic verbs, side by side with the prot. pres.; one or other *form* only is found. But in Epic poetry traces of the simple root-form are to be found even when there is a strengthened present stem: and the *sense* of the momentary present is frequently supplied in Attic, as is well known, by the aorist or momentary past.

Other examples of a present stem strengthened by reduplication are γίγνομαι for γι-γεν-ο-μαι, root ΓΕΝ (γενήσομαι, ἐγενόμην); μίμνω for μι-μεν-ω, existing beside μένω, mom. pres. from ΜΕΝ; πίπτω for πι-πετ-ω, root ΠΙΕΤ, Dor. aor. ἔπετον from which ἔπεσον is a weakening: κέκλωμαι, μέμβλωμαι, and many others. In Latin we have *si-sto*, reduplicated from *STA*; *gigno* formed like γίγνομαι from *GEN*, *gi-gen-o*; *sero* is *se-so*, from *SA* (supine *satum*), an Indo-European root, whence we derive our "sow;" *bibo* from *PA*, by weakening of *p* to *b*, of which there are other examples found; thus *Boblicola* for *Poplicola*, or as we generally have it with one *p* only weakened, *Publicola*; *PA* is supported in Latin by *potus*, *poculum*, &c. It will be observed that in most of these Latin verbs the reduplication, instead of confining itself to the present, has passed over the rest of the tense-system. There are examples of this in Greek also. Thus we find διδάσκω, διδάξω (contrast μι-μνη-σκομαι, fut. μνή-σο-μαι with no reduplication), ἐδίδαξα, nay even the perfect δεδίδαχα; where the treble *d* must have been a sore trial to the Greek sense of euphony. These cases might undoubtedly be explained as intensive verbs, which therefore retained the reduplication through all the tenses. But there is, at least now, no intensive force in them, and it is not very likely that they ever were such. I prefer to explain them on the same principle I endeavoured to set forth above: that as time went on the meaning of the process by which the present stem was strengthened faded out of the consciousness of those who used it. Use, the ultimate court of appeal in all questions of language, did not require in these verbs the distinction between the stronger and weaker form: the stronger superseded the weaker, and the other tenses were formed from it as though it had been the original form.

I have now, I think, sketched out all the different methods of strengthening verbs by reduplication. I will

add a few examples of reduplicated nouns: in all of them there was doubtless once some intensive force, but it has been lost with time. Such are *ἀκωκή* from AK, *ἄρωγος* from AT (whence *ἀρωγεῖν*); in both these the radical vowel is strengthened to *ω*; like *ἄρωγος* by *ἀρήγω*, *ἔδωδῃ* from EΔ; here the strengthening of the radical vowel is irregular. Still simpler cases are *Τάπρασ*, *κάρκαρον* (Latin *carcer*); but in these the meaning is not very easy to explain.

Vowel-Intensification.

We may now pass on to the fuller consideration of the second, and much more important method of strengthening the idea contained in a root, that of modifying the radical vowel. It is obvious that this method, if carried out completely, could be employed only by a people whose perception of the distinction of sounds was nice and cultivated. Yet it is quite clear that the Indo-European race before its separation did possess a rising scale of all the vowel-sounds. This scale has been mentioned before¹: it may be repeated here.

Orig. vowels.	First step.	Second step.
<i>a</i> ,	<i>a + a = ā</i> ,	<i>a + ā = ǣ</i> ,
<i>i</i> ,	<i>a + i = ai</i> ,	<i>a + ai = āi</i> ,
<i>u</i> ,	<i>a + u = au</i> ,	<i>a + au = ǣu</i> .

These new sounds were employed by the different peoples of the original stock under different forms according to their various phonetic laws, and with more or less of system and precision according to their different gifts. A complete list of all the substitutes is given by Schleicher². Those employed

The intensified vowel-forms differ in different languages.

¹ See p. 33.

² See *Comp.* p. 160.

by the Greek and Latin will come immediately under our fuller consideration. We may glance for a moment at those of some of the other nations, so far as they employed them.

Most recognisable in Sanskrit; and most regularly employed there.

First, then, Sanskrit remained the closest to the system of the original speech, only varying indeed from it by substituting *é* and *ô* for the first steps of the I and U scales, respectively: in the A scale it has not attained to any means of distinguishing the first or second steps; indeed the Indian grammarians say that there is no *Guna* of *a*, only *Vridhhi*, that is, no first step, only a second one¹.

One of the most important uses of the scales is the formation of nominal bases primary and secondary: thus from *VID*, "to know," comes by regular ascent the well-known word *Veda*: and the second step (together with the suffix *-ika*, which is purely formal) gives us *Vaidika*, "belonging to the Vedas," an adjective which (minus its final *a*) is now commonly used by English Sanskritists instead of the commoner "Vedic." A more full, indeed redundant, list of derivatives than the Sanskrit possesses by this method of vowel intensification with formal suffixes, cannot well be conceived. The Greek and Latin have similar examples, as we shall see; but nothing like the fulness of the Sanskrit vocabulary. Indeed it is in this power of forming bases, both nominal and verbal, and its marvellous facility in combining nominal bases thus formed, that the genius of the Sanskrit is especially manifested, as compared with the classical languages. It is not equally manifested in conjugation. Here we find what is perhaps its oldest application, namely to

¹ These terms *Guna* and *Vridhhi* have become to a certain extent familiar to those who are not Sanskrit scholars, by their occurrence in treatises on comparative philology—more especially in England from their being used by the late Dr Donaldson. They have been, with good reason, generally rejected by later philologists: they are purely Indian, and do not express satisfactorily all the uses which can be made of the vowel-scales, by languages possessed of a fuller vowel-system than the Indo-European and Sanskrit.

strengthen some verbal bases in those persons whose terminations are technically called weak. Among these are the three persons singular of the present. Thus from *i* "to go" is formed, *émi*, "I go;" *éshi*, "thou goest;" *éti*, "he goes:" but in the plural, *imás*, "we go." This is exactly analogous to the Greek *εἶμι*, *εἶ*, *εἰσι...ῖμεν*: compare also *δίδωμι* with *δίδομεν*. This phenomenon has been explained in different ways, into which it is not here the place to enter fully: the most satisfactory, if it could be fully applied, would be Professor Benfey's, who makes it the result of accentuation¹. He lays down that the accent naturally falls on the modifying syllable of a word. Thus in *i-más*, "we go," the strong termination *mas* modifies and restricts the general idea of going to the particular going of some persons, more than two, and spoken of by themselves; therefore it is accented. But when certain terminations became weakened, e.g. *mí* from *ma*, they were unable longer to bear the accent; which then fell back either on the radical syllable and strengthened it, as *émi*, or on some additional modifying element, if such existed, as the reduplicated syllable in *dádāmi* (plur. 1, *dadmás*), or a formative suffix as *nu*: thus from *chi*, *chi-nó-mi*, but plural *chi-nū-más* (compare *δεικ-νῦ-μι*, *δεικ-νῦ-μεν*). Here, however, the Greek is not in accordance with the Sanskrit, for *δίδομεν* and *ῖμεν* throw their accent back in accordance with the common Greek rule: though in many minute respects the accentuation is the same in the two languages. It is of course possible that here also it was originally the same, and that in course of time as the reason of the variety became forgotten, the distinction in accent passed also out of use². Such an explanation is very possi-

¹ See his *Kurze Sanskrit Grammatik*, §§ 153, 154.

² The accent is still found on the last syllable in *φαμέν* and *ἐσμέν*, but these two verbs are again discordant with the Sanskrit in having *ei* and *phi*; even though the latter has the radical vowel increased in the singular.

ble and quite in accordance with analogy: but it cannot be proved.

Not one-tenth however of the Sanskrit verbs belong to the second conjugation, which distinguishes the strong and weak forms. The first class of the first conjugation which alone comprises more than half of the verbs in the language—probably however the latest in time, like the Greek verbs in ω —agrees with the Greek in raising the vowel (of i or u , but not a) one step to form the present stem. Thus from *budh* we have *bodh-ā-mi*, by the side of $\pi\upsilon\theta$, $\pi\acute{\epsilon}\theta\omicron\mu\alpha\iota$. The first and second increase are found in the formation of the Sanskrit perfect, without regard to the conjugations, in accordance with special rules which may be found in any Sanskrit grammar: thus the perfect of *budh* is *bubodha*, where there is no further increase from the present stem *bodh*; compare the Greek $\phi\upsilon\gamma$, $\phi\acute{\epsilon}\upsilon\gamma\omega$, $\pi\acute{\epsilon}\phi\epsilon\nu\gamma\alpha$: but verbs ending in vowels generally exhibit the full scale: thus *dru*, “to run,” present *drav-ā-mi* (for *dro-ā-mi*, by a regular euphonic law), perfect *du-drāv-a* (for *du-drāu-a*). Further illustrations from Sanskrit would be out of place here. I have thought it necessary to say so much, because the extent to which the principal vowel-change pervades the whole system of language is more fully seen in the Sanskrit than in any other of the sisters; because when Sanskrit was at its fullest development, that principle remained living and productive in all the base-formations; whilst in other languages its regular action can with difficulty be traced except in the formation of verbal bases; in some languages, as the Latin, scarcely there.

Vowel-scales in the Gothic;

The substitutes in Gothic for the different steps of the vowel-scales may be interesting to students of English. We find in the I scale i , ei , ai , in the U scale u , iu , au . The reason of this variation is that the Gothic has no \bar{a} to employ in the second step; and therefore substitutes e and i

for *ǣ* in the first steps. Thus, from *stig*, "to climb," Indo-European STIGH, Greek *στιγ* (whence *στρίχω*, *στοῖχος*), we have present *steiga*, "I climb," perfect *staig*, "I clomb;" from *bug*, "to bend," Indo-European BHUG, "to bend" (Greek *φύγ*, and Latin *fug*, "to fly," i.e. to bend out of the original course: compare the Greek *τροπή* in the same sense, and *τρόπαιον*¹), we have *biuga*, "I bend," and *baug*, "I bent." In the A-scale the Gothic (like the Greek, as we shall see below) distinguishes the first from the second step by employing *ê* for the first—the O. H. G. keeps *â*—and *ô* for the second; thus *lat* (German *lassen* = "to let"), *lêta*, *lai-lôt*.

Lithuanian, which possesses *e* besides *a* as a radical vowel ^{and in the A-scale,} has *a* for the first step and *ô* for the second, ^{the Lithuanian;} like the Teutonic family. In the I-scale it has *ei* or *ë*, the last a modification of *e* produced by sounding *a* immediately after it, and consequently always long (see Schleicher, *Comp.* p. 135, or his Lithuanian grammar, where the excessively difficult and numerous vowel-sounds are fully explained). The second step is *ai*, like the Gothic. In the *u*-scale we find first *au* or *û*, which is a long *o* with the same parasitic *a* as above, second *āu*. *Au* and *āu* resemble the Sanskrit in becoming before vowels *av* and *ôv* (Sanskrit *āv*) respectively.

It is not necessary to go further into the different languages to establish the principle. Sufficient examples have been given from the most important (except the Greek and Latin) to shew that the power of intensifying ideas in this way is as old as Indo-European times; and we may now pass to a fuller consideration of the principle among the Greeks and Italians.

In the A-class an obvious difficulty occurs. How is it ^{in Greek and Latin,} possible to distinguish the two steps when *a + a* becomes *ā*, ^{(i) the A-scale.} and *a + ā* has no further symbol to represent it? The

¹ *Gr. Et.* p. 172.

*Difficulty
of distin-
guishing
the two
steps.*

effects of this difficulty in the Latin will be obvious when we look at the irregularity of the cases where the *ā* has been intensified. Thus we have *ācer* from the root *ak*, which is short in *ācies*, &c.; but *mācer* is still short from *mak*, *mācies*; the causal of the same root *mācero* is long, but *lācero*, similarly formed, is short: perhaps in the case of *macero*, the formation of which is denominative rather than causal, the *a* has been lengthened on the analogy of causals like *plāc-are* from *plāc-ere*, which is formed quite regularly on the Sanskrit, and probably Indo-European principle. *Sāgax* stands by *sāgus*, *pāc-iscor* by *pāc-s* (*pax*, *pāci-s*). From these and other examples which could be given it would be impossible to lay down any rule for Latin use in this scale when the *a* has been retained and not weakened to *e*. If we turn to Greek we shall find more clearness. Thus we have from the root *ād* (Indo-European and Sanskrit SVAD, compare Latin *sua(d)vis*), *ādeîn*, *ēāda*; from *λακ*, *lākeîn*, *λελāκα*; from *λαθ*, *ελāθον*, *λελāθα*, in the older (Doric) form and in Doric perfects generally. Thus we see the *ā* restricted regularly to the perfect; the presents being otherwise strengthened (*βινδάνω*, *λάσκω*, *λανθάνω*, &c.). The long *a*, which sometimes appears in the present of these verbs, e.g. *κραῶ*, *κραῶζω*, *κεκραῶγα*, is phonetic, not dynamic; *κραῶζω* = *κραῶγ-γ-ω*. The Ionic *η*, the weakened form of *ā*, is similarly used as the rule for the perfect, not the present; for cases like *πτήσσω* can generally be explained like *κραῶζω*: that is, *πτήσσω* = *πτᾶκ-γ-ω*; compare the compound aor. *κατέπτακον*. There are however exceptions to this rule; thus we find *πίγ-γυ-μι*, perf. *πέπηγα*, where there is no vowel difference: in other cases, e.g. *ρήγνυμι*, where *η* is found in the present, we have a further increase in the perfect, as *ῥρωγα*. On the whole then it seems allowable to regard *ā* and its dialectic equivalent *η* as occupying the highest step in the *a*-scale.

c
α /

Then how did they represent the first step and keep it distinct from the second? Sometimes, as we have seen, by strengthening the verbal stem in different ways; either by reduplication, as ἵστημι for σι-στα-μι, or by nasalisation, as in ἱ(ν)δ-άν-ω, or by suffixes, as in λά(κ)-σκω, ἄπ-τω, φαίνω for φαν-γω, ἄγ-νυ-μι, &c. But very frequently they employed a vowel-variation ready to hand, one originally phonetic only, but capable of being applied to distinguish different shades of meaning¹; that division of the *a* sound, so often mentioned, into *a*, *e*, *o*, which will be fully described as soon as we come to phonetic change. Now *o* is a heavier sound than *e*; so that while *e* is employed for the present stem, the greater intensity of idea implied in the completed action can be expressed by *o*; as e.g. in πέρθω, πέπορθα; στρέφω, ἔστροφα, &c. But this more frequently is the mechanism employed in the formation of nominal bases. Thus by πέρθ-ω we have πόρθ-ο in πτολίπορθος; by στρέφ-ω, στροφ-ή, and στρόφ-ο-ς; by ἔχ-ω, ἔχ-ο-ς, and ὀχ-ή, and innumerable others². Indeed this may fairly be called the most important of all the methods of forming nouns in the language.

¹ This faculty of language may be well illustrated from Prof. Curtius, note 21 on page 81 of his *Essay on Comp. Philology and Classical Scholarship*. He there says (Engl. trans.): "The distinction between ἐχόμεθα and ἐχόμεθον was surely at first purely phonic, but it subsequently got to be employed to separate the plural from the dual. And the Sanskrit termination of the first person dual *vahé* is most likely but a variation of the 1st pl. *mahé*; and scarcely any one would maintain that in the *v* there is really a significant mark of the dual relation (cf. *vayam*, plur. = "we"). Thus too I consider πέρθω as a by form of πάθος, one which the phonic tendency alone has brought forward. There was never any difference between, e.g. βένθος and βάθος, although a more refined feeling of the language introduced one between πέρθω and πάθος. This is in some degree also the case with the German "Ablaut," [i.e. the change of a vowel to another vowel of a different class according to certain laws], more especially in its application to the formation of words. It can be shewn that the change of *i*, *a*, and *u*, in the verb *trinken* was there before, and that it arose from very different reasons than the difference in the meaning of *Trank* and *Trunk*."

² See the full list in Leo Meyer, *Vergleichende Grammatik*, i. 110, &c.

A slight difficulty arises here from the fact that the ascent from ϵ to σ is not always (indeed not generally) the entire process in the verb-formations on this method. Besides the perfect stem in σ and the present stem in ϵ we commonly find another stem in α : thus by $\tauέτροφα$ and $τρέφω$ we have $έτραφον$; by $έστροφα$ and $στρέφω$, $έστράφην$. Now this stem, as expressing the simple momentary action, ought undoubtedly to be expressed by the weakest vowel; and so we find it in the other vowel-scales; e.g. from $λιπ$ we have $έ-λιπ-ον$, $λείπ-ω$, $λέλοιπ-α$. Clearly we have this relation; as $\tauέτροφα$ is to $λέλοιπα$, so is $τρέφω$ to $λείπω$, and $έτραφον$ to $έλιπον$. But A is undoubtedly a heavier vowel than E¹; and therefore we seem in this particular case to have a weakening and not a strengthening in the first step of the scale, though the second step is an increase of sound above the first. It may be that the "Sprachgefühl" of the Greek was here for once at fault; and that the three separate forms being all to hand were taken on a false analogy, in order to gain that distinctness which, as we have seen before, the Greeks prized above all other people².

Traces of
the same
method in
Latin.

The Latin is not without traces of the same change. Though few and far between, compared with the abundance of the Greek, they are sufficient to shew that it inherited the same method as the sister language, though not the same power of developing it. Thus we find among the verbs the increase from ϵ to σ , in $m\ddot{o}neo$, the causal (compare Sanskrit $m\ddot{a}n-ay\ddot{a}-mi$) by $me-min-i$ (weakened from $me-m\ddot{e}n-i$), $men-$

¹ I have suggested however above, in explanation of a similar difficulty, that the Greek α may have been the weakest of the three substitutes for original A.

² This difficulty is ignored by Schleicher in his *Compendium*, p. 62, where, in treating of the different intensifications of α , he makes ϵ to σ one of the first steps. To me it appears certainly a second step in the verbs mentioned above; and in nouns $\delta\chi\sigma$ stands to $\epsilon\chi\omega$ just as $\sigma\tau\alpha\iota\chi\sigma$ (second step) is to $\sigma\tau\epsilon\iota\chi\omega$ ($\sigma\tau\iota\chi$) and $\sigma\pi\omega\delta\eta$ to $\sigma\pi\epsilon\upsilon\delta\omega$ ($\sigma\pi\upsilon\delta$).

(*ti*)s. If *man-e-o* belong (as has been already suggested) to the same root we have here an example, I believe the only one in Latin, of the triple form in actual use, but with the distinction practically forgotten. Just like *mōneo* is *nōceo*, the causal of *nēc* (in *nex*, *nēcis*), Indo-European NAK. Passing to nouns we have *tōg-a* from *tēg*; *prōc-u-s*, "a wooer," by *prēc-ari*; *sōc-iu-s* by *sēg-ui* and *ad-sec-la*, and others¹.

We have seen above that *η* has gained a place in several present stems, sometimes on phonetic grounds, in other cases perhaps by analogy. This gave the Greeks an advantage which they were not slow to use. Since $\omega : \eta :: o : \epsilon$, another method of ascent in the *a* scale was gained thereby. Thus from the root (F)PAΓ, present *ρήγ-νυ-μι*, they formed the perfect *ῥρωγα*—in exact analogy, as has been already observed, with the Gothic *lat*, *lēta*, *lailōt*. This ω makes its way also into noun-forms; thus from *πτακ* (*πτήσσω*) we get *πτώκ-ς* "the hare," (the by-form *πτώσσω* is perhaps a denominative verb formed from it): so also *ἄρωγ-ός* stands by *ἄρήγω*, "to help," (root PAK): and it occurs regularly in reduplicated nouns, as *ἀγ-ωγ-ός-ς* and *ἀγ-ωγ-ή*, *ἄκ-ωκ-ή*, and (perhaps formed on analogy with these) even *ἐδ-ωδ-ή* from the base EΔ.

Short *e* is raised to long *e*, in Greek rarely, as *μέ-μηλ-α* (*μέλω*), and in such cases as *τί-θη-μι* by the side of *τί-θε-μεν*: but more commonly in Latin, where we find *sēd-es* (*sēd-eo*), *tēg-ula* (*tēg-o*), *lex* (*lēg-is*), and *col-lēg-a* by *lēg-o*; and among verbs *ēd-i* (*ēd-o*).

Similarly short *o* is lengthened, again in Greek more rarely than in Latin: *ῥδ-ωδα* is lengthened from OΔ; *στώ-μυλος* stands by *στόμα*: and the *δίδωμι* class of verbs corresponds to the *τίθημι* class. In Latin *vox* (*vōc-is*) stands to *vōc-o* in the same relation as *lex* to *lego*: *persōna* is an increase of sound upon *sōn-u-s*, and *sōp-i-o* above *sōp-or*. In

¹ See Schleicher, p. 87.

Advantage
of the dif-
ferent sym-
bols for
long vowels
in the
Greek.

Quantita-
tive in-
crease.

these two last cases the *o* comes from original *u*: the Indo-European roots are SVAN and SVAP respectively, but this does not affect the principle of the increase of the *o*. As a general rule it would seem that the Latin language preferred the simpler expedient of a merely *quantitative* increase of sound (*ā* to *ā*, *ē* to *ē*, *ō* to *ō*): while the subtler genius of the Greek chose rather a *qualitative* strengthening, like that of *e* to *o*.

(ii) *The
I-scale.*

We may now pass to the I-scale, which may claim the merit of being the most perfect and least corrupted exponent of the scheme, both in Greek and Latin. Thus in Greek we have the already often quoted ΔΙΠ, whence *ἐλπιν*, *λείπω*, *λέλοιπα*; and nouns formed at each of the steps, *λείψις*, (at least in compounds,) for original *λειπ-τι-ς*, and *λοιπ-ός*: ΠΙΘ, *ἐπιθον* and *πιθανός*, *πείθω* the verb, the noun *πειθῶ* and *πεῖσι-ς* (in compounds like *πεισίβροτος* applied to the sceptre, *Æsch. Choeph.* 362), *πέποιθα*, but no noun of the second step. Very frequently we do not find all the three stages exhibited in the verb; but there is generally some noun to supply the missing link. Thus from ΣΤΙΧ we have *ἔστιχον* rarely, but *στίχες* (nom. plural); *στείχω* commonly, but no perfect in *οι*: we have however the noun *στοῖχος*, to shew that the principle of the change was consciously held by the language, even when not fully employed. So from ΦΙΚ "to look," or "seem," we find such forms as *ἔφικτον*, the dual third person in *Odyssey* IX. 27; no present *Φεικω* in use, but *εἰκών*, "a semblance," or "image:" and the second stage is evidenced by *ἔοικα* for *ΦέΦοικα*. Similarly from Ι "to go," we have *ἵμεν*, *εἶμι*, and *οἶμος*, "a way." ΚΙ "to lie," is unrepresented in the simplest form, which is found in the Latin *quies*, but the first step is seen in the so-called perfect, but really present tense *κεῖμαι*, and the second in *κοίτη* and *κοιμάω*. Good Latin examples are hard to find; indeed there is probably no verb which

exhibits all the stages, for the Latin verb had no form to denote the completed action, and expressed the perfect merely by reduplicating the simple base of the momentary action; often in later times by the suffixes *-vi* and *-si* for *fui* and *esi*, the perfects of *FU* and *ES* respectively. It is to the nouns that we must look for traces of the second step, disguised of course by the Latin peculiarity of pronunciation, which changed *oi* into *oe*, and that sometimes into *ū*. Thus *FID* produces *fides*, *feidus* (in classical Latin *fidus*), and *feido* (*fido*), *foidus* (*foedus*). We have the first step in *deico* (*dīco*) from *DIK*; from *I*, which is short in *īter*, comes *eire* (*īre*, "to go"): and we find in inscriptions also forms like *veivos* (*vīvus*), *deivos* (*dīvus*), *veicos* (*vicus*), which is formed from the same root as *Folkos*; but while the Latin raises the radical *i* one step, the Greek jumps to the second. The second stage is seen in *moenera* (from *moinera*), which again passed into *mūnera*: and we find in inscriptions¹ such forms as *oinos*, *coiravit*, *oitile*, which appear in classical Latin as *ūnus*, *cūravīt*, and *ūtile*. In none of these cases, it is true, can we point to the radical vowel occurring in any Latin word, or indeed to the first steps *ei* in each case. Yet the analogy of *fides*, *fidus* and *foedus*,—coupled with the fact that the corruption in the Latin vowels is of such old date, that we cannot well expect many perfect examples of the principle, which yet the Italians must have once possessed in common with the Greeks,—may justify us in regarding them as isolated instances of vowel intensification.

There are some curious instances where *ai* is found as an increase of *i*, by the side of *ei* and *oi*. These, as has been noticed by both Leo Meyer and Schleicher, are generally cases where the radical form had early fallen into disuse; and the intensified form was therefore used without any sense of its relation to the original root, a root which

*Occurrence
of ai as an
intensified
form of i.*

¹ See Corssen, *Aussprache*, i. 194.

must have ceased to occur at an early period of the Graeco-Italian history, before the application of *ei* and *oi* to denote the first and second steps respectively had become the established rule. Thus we deduce an Indo-European root IDH, "to kindle," from the Sanskrit *indh*, with the same sense (past part. *iddha*, that is *idh + ta*, in accordance with a euphonic law of the language). Now no word is found in either Greek or Latin which contains this root in its simple form; but several which contain it raised a step, that is to *aiθ* in Greek and *aed* in Latin. Such are *aiθw*, *aiθos* and *aiθip*; *aed-es*¹, *aestus* and *aes-tas*; in the last two *d* has passed into *s* before *t* by the ordinary Latin rule. We must suppose therefore that at some very early period of the Graeco-Italian nationality the root *idh* was raised to *aidh*, from which came the above-mentioned words; that the simple form of the root then was lost, so entirely that no tenses formed from it occur under the verb *aiθw*, of which only the present and imperfect, that is the present and past of the protracted-action are found. The principle of the intensification is lost; the formal result alone remains. The increase of sound may be even older than the Graeco-Italian period, for we find from the same root (which however is very barren except in Greek and Latin) the Sanskrit noun *édhas* "fire-wood," and the O. H. G. *eit*, "fire"²: in that case the root *idh* may have been lost immediately after the first separation of the Eastern and Western nations.

The Latin has some examples to shew where the original

¹ Was *aedes* "the place of a fire," taken by the Latins alone to denote a house, because of the fires necessary to counteract the malaria of the plains of Latium? Or was it originally, as in classical times, a temple, from the use of fire in sacrifice? Then it would pass to the general signification of "a building," and the plural "the buildings" be used for the more extensive family house, like *δῶμα* in the Greek.

² Curtius, *Gr. Et.* p. 225.

and the intensified base are both preserved. Such are *mis-er* and *maes-tus*: perhaps also *imitor* and *aem-ulus*: a similar process of formation is claimed for *Scaevus* (σκαίός), *laevus* (λαίός), and *caecus*¹. Whether *αἰών*, *aevum*, are formed by the same method from I "to go" with suffix *-van*, seems to me doubtful. A large list of these examples is given by Corssen in the second edition of his *Aussprache*, &c.

Perfect examples of intensification in the *u*-scale are (iii) *The U-scale.* more difficult to find, even in Greek. We have from ΕΑΥΘ ἤλυθον, ἐλεύ(θ)σομαι and εἰλήλουθα, where both steps occur. We have from ΦΥΓ, ἔφυγον and φεύγω, but the perfect is only πέφευγα; nor does the higher form seem to occur in any noun. So also from ΣΤ was formed σείω, and from ΧΤ, χείω, where the *υ* however passed into the digamma, which was lost in common Greek, and χέω remained. Similarly from ΞΤ is ξέω. From ΡΤ and ΠΝΤ we have beside ῥέω and πνεω, ῥεύμα and πνεῦμα as first steps, then ῥοή (for ροῦ + η), πνοή (πνοῦ + η) for second steps: similarly ξόανον from ΞΤ. The two steps are found without any radical form occurring in σπενδω, σπουδή: it is probable however from the identity of meaning that the simple form is found in the Latin *stud-ium*, and there are examples of the transition from *τ* to *π*. So also we find ἀκόλουθος beside κέλευθος, where the simple form is very uncertain².

In classical Latin all distinction between the two steps is lost, because both *eu* and *ou* passed into *ū*. Corssen however³ has recovered from inscriptions old proper names, such as *Teurisci*, *Leucesie* (apparently from *LUK*, whence λευκος), and the Greeks transliterated *Lucius* into Λεύκιος, which how-

¹ See Schleicher, p. 91.

² See Schleicher, note to p. 68 (from which the above examples are taken); and Bentley, *Gr. Wurz. Lexicon*, II. 319.

³ *Aussp.* I. 176.

ever may be only on analogy. *Ou* is found more frequently in the inscriptions, as *Loucina*, *Loucania*, *ious* (for *ius*, *iuris*), *ioudex*, &c. For *duco* we find *douco*, where we should rather have expected *deuco* as the first step: perhaps *ou* superseded in this and other places an original *eu*, by the assimilating force of the *u* upon the *e*¹. In *rūfus* by the side of *rüber*, and *nūbo* by *pro-nūb-a*, we see an increase; but which step cannot certainly be fixed.

*U intensi-
fied to au.*

Just as in the *i*-scale we found an archaic increase to *ai*, so also we find *au* in the *u*-scale, but still more rarely: an instance is seen in *αἰξάνω* and *augeo*, the simplest form of which, *UG*, is preserved in *ἰγ-ι-ής* and Sanskrit *ug-ra*, "powerful." The sense "to increase" was probably the original one²; but while the simpler form in Greek and Latin was restricted to bodily growth and health, the strengthened form retained the wider sense, and the connection between the two was lost. *Navis*, *vau*s, may come from a root *nu* (Schleicher) or *snu* (Curtius); the original *s* however must have been lost in all the languages. Lastly the Latin *Aurora* was originally *Aus-osa*, a strengthened form from *US*, "to burn," already mentioned.

¹ Schleicher, p. 93.

² *Gr. Et.* p. 171.

LECTURE VI.

VOWEL-CHANGE.

WE have now cleared the way for the discussion of the nature and extent of phonetic variation in Greek and Latin. Let me repeat what I said in my first lecture, that by phonetic change I mean such change of sound as was originally caused purely by the desire for easier articulation, and was not intended to denote any modification of idea, though the new forms may in some few cases have been afterwards so employed. Two different sets of phenomena resulted from this striving for ease of sound. Either a new sound was substituted for the old more difficult sound; in which case we have the result of *Weak Articulation*: or in consequence of a lazy, perhaps sometimes drawling pronunciation, an entirely new sound became heard in connection with an old one—a sound to which I have already applied the expressive term of Prof. Curtius, “parasitic;” such cases will be considered separately under the head of *Indistinct Articulation*.

Again, Weak Articulation may be viewed under four different aspects. In all the tendency is the same; but the results are different from the modifying effect of neighbouring sounds in certain cases. Sometimes there seems to be no

Phonetic change due to two causes—Weak Articulation, and Indistinct Articulation.

Weak Articulation to be first considered under four heads.

1. *Substitution.*—such cause; here we have cases of pure weakening—the substitution of a weaker for a stronger sound; for no reason that we can see but the inability of the people to pronounce the old one, as in the case of the Greek spirants. Such weakenings are generally very old: the sound thus affected is found in a weakened form throughout the whole language, not merely in dialects of it. Sometimes on the other hand we find thoroughly capricious affections of particular sounds which generally remain unaffected, as for example when *α* in Greek is weakened to *ι*—a rare change but not peculiar to any one dialect—or to *υ*, which is almost confined to Aeolic. But neither in the regular, nor yet in these last irregular “sporadic” changes (I adopt another term of Prof. Curtius) is there any visible effect produced by adjoining sounds: and this class of changes, the motive for which lies in the sound itself, will be considered first under the head of *Substitution*.

2. *Loss.* When this substitution has gone to the utmost length and the sound has perished altogether; or where there has been no substitution, but a too difficult combination of sounds has been accidentally produced and one consequently has fallen out; or where a particular sound was either difficult, or disagreeable to the feeling of the language, to produce at the end of a word—the part which is always more exposed to phonetic influences than any other: under these circumstances we have our second head—*Loss*.

So far the tendency of the change has been all in one direction. We have had not only an easier sound produced by it, but also a weaker sound. The course of phonetic degradation has been down the list of sounds arranged in order of strength: and though the scale may vary in particular details for different languages—for example the vowel-scale is not quite the same in Greek and in Latin—yet it remains constant for each language. We now come to a different cause of change—the influence of neighbouring sounds.

Here the operation of the main principle is no longer uniform. It is true that the change always produces an easier sound: but it is a matter of indifference whether that easier sound is brought about by weakening a strong to correspond with an adjacent weak letter, as *δόγμα* from *δοκ*, *ποσσί* from *ποδ-σι*, or by strengthening a weak sound for a similar reason, as *λεκ-τος* from *λεγ*, *τέττα-ρες* from *τετ-φα-ρες*. The change indeed is almost always from a stronger to a weaker letter, except in cases of inflection or formation, such as *λέλεκ-ται* or *λεκ-τός*: and in these it is clear that the importance of keeping the suffix uncorrupted was felt (both in Greek and Latin) to outweigh all other considerations; and therefore *λεγ-τος* did not become *λεγδος*, as might have been expected. But in all such apparent exceptions the great principle of phonetic change was kept in the spirit, though not in the letter. These variations are, as a rule, later than those mentioned under the first two heads: they are often historically traceable. They are also not so universal; not so essential a part of the character of the language as a whole. Rather they are among the distinguishing marks of dialects. No doubt "euphonic changes," as they are called in grammars, such as *δόγμα* and *λεκτός*, *fractus* and *segmentum* (root *SEC*) are found universally enough. But where the principle has acted to its fullest extent; where two sounds have not merely drawn nearer to each other, but have become identical, we commonly find its action limited to one or two dialects. Thus *τέτταρες* or *τέσσαρες* is Attic, but *τέτορες* is Doric, and *πίσυρες* Æolic: *κτέννω* is Æolic for *κτεν-γω*, but is not found in any other dialect. In all such cases we have to do merely with a growing tendency, spreading indeed more and more over the whole language, but acting most irregularly, attacking a combination of sounds in one word but leaving it in another, even in the mouth of the same speaker; yet still acting more frequently in one district than another, and so tending to produce a "dialect"—the

title we give to the result of a bundle of tendencies often contradictory, and rarely fully developed, which is yet sufficiently distinct from other results similarly produced to require a separate name¹.

3. *Assimilation.*

Neighbouring sounds then affect each other, and thus modify the action of our principle of phonetic change. They do this in two distinct ways. First, when two dissimilar sounds meet, and it is difficult to pronounce both clearly, one assimilates the other—more or less perfectly—to itself; and so we get our third head—*Assimilation*.

4. *Dissimilation.*

Secondly, when two similar sounds occur close together, and where a considerable effort is required to place the organs of speech twice consecutively in the same or a similar position, the opposite result to the last is produced;—which gives us our fourth head—*Dissimilation*.

I shall consider the operation of these four tendencies on Greek and Latin together. I do so partly because the relative strength and weakness of the two languages will be seen better in this way than if I treated them separately. But my principal reason is this; I hope in this way to make more

¹ Prof. Ernst Curtius in his *History of Greece* (Vol. 1. p. 27, Eng. trans.) says that Aeolic is not a dialect like the Doric and Ionic, on the ground that it varies in the different regions in which it is found, and has no universally prevalent type. I do not understand this distinction. Do the Aeolic of Asia and the Aeolic of Boeotia differ more than the Doric of Crete and the Doric of Syracuse? No doubt if we regard a dialect as the result of homogeneous tendencies, we shall find many things contradictory in the Aeolic, which cannot be reduced to any "fixed law of sounds." But this is true of every dialect. Every dialect is sometimes strong, sometimes weak, even in the same class of formations, in consequence of the incomplete action of the tendencies which produced it. If these tendencies had been fully developed, it would have been no more a dialect, but a distinct language. In truth instead of restricting the Greek dialects to two, it would be wiser to extend their number. Doric includes at least two very marked varieties, Aeolic three: of these the Doric of Sparta differs not very much from the Aeolic of Boeotia: so that it would not be unscientific to speak of five distinct dialects, without taking into account the varieties of the Ionic. At any rate Aeolic has as good a claim to be a generic title as Doric.

evident the *reason* of the changes which I have to enumerate; to throw some light on the general principles of language, not merely give a list of the changes found in two. For these principles are universal principles: they act on every language, not least upon our own: and they will be best understood by observing their action in as wide a field as possible. I shall be obliged indeed to consider vowel-change and consonantal change separately, each under the four forms I have mentioned, because the attempt to combine them would practically create confusion.

The following are the general results to which our investigation will lead us with respect to Greek and Latin. We shall find the first tendency—that which leads to substitution—is felt very considerably in both languages; that it affects the Latin vowels much more than those of the Greek; the consonants about equally; but not quite the same consonants in the two languages. The second is rarely felt in Greek whether among vowels or consonants, and is always more or less reducible to rule: whereas it is constant and highly irregular in its operation on the Latin. The third and fourth are utterly powerless over the strong Greek vowel-system: whilst they affect the Latin vowels more than those of any other Indo-European language: on the other hand the Greek consonants have suffered more from Assimilation than the Latin.

As my object is to describe the different forms under which the simpler material of the Indo-European language appears in Greek and Latin, it does not enter into my plan to give any detailed history of the new sounds or symbols which those languages severally produced, except in so far as they were developed out of the older forms. Such development was the origin of the only variation in the vowel system of the Greek and Latin, the presence of the sounds *e* and *o*, which we shall presently see were known even before

*Later—not
Indo-European—letters of the
Greek and
Latin alphabets.*

the Graeco-Italian period. In historical times, as is well known, the Greek alphabet was enriched by the symbols η and ω , or rather η at least was employed in a new way: this mechanism for the expression of a distinction of sound, which they of course possessed equally with the Greeks, was never attained to by the Italians. Of the new Greek consonants, three— ξ , ψ , χ —are only arbitrary and more convenient expressions for the combinations *ks*, *ps*, *sp*. Two more— ζ , and the spiritus asper, (if that be a real letter; I do not intend to enter into that fearful controversy)—will appear to have arisen from phonetic causes. Lastly, comes the almost obsolete Koppa: of which I shall speak together with the Latin Q in a future lecture. The Italian produced fewer new consonants. Three are phonetic in their origin, and will be described hereafter—*f*, *h*, and the old Latin *z*, equivalent to a soft *s*, which is only found in very early Latin, and in the Oscan. The symbol *x*, as its position in the alphabet shews, must have been borrowed from the Greek at a period later than the time when the symbols of the whole Greek alphabet were introduced into Rome from Cumae, but before it was superseded in Greece by the symbol ξ , as there is no reason to believe that *x* ever denoted anything at Rome but *cs*. The history of the symbols *c* and *q* will be given hereafter. Lastly, the letters *y* and *z* (= ζ , that is *dz*) were borrowed at a late period of the republic from the Greek, as has been already described (see note to Lecture I.). The Greek characters—not of course the *sounds*—were derived, as is well known, from the Phoenician: and at a later, but far distant pre-historic period, were passed on to the Romans in the modified form under which they occurred among the Greeks of South West Italy and Sicily¹.

Pronunciation of the vowels.

It seems almost superfluous to add that for etymological purposes it is essential to give to the Graeco-Italian vowels

¹ See Mommsen, *Unteritalischen Dialekte*, Table 1.

the sounds which they have always had in other Indo-European countries than England: that *a* (short and long) should be sounded as in *man* and *far*; *e* as in *men* and *mane*; *i* as in *bin* and *been*; *o* as in *on* and *own*; *u* as in *put* and *boot*. The Greek upsilon, as we shall see, is an exception to this rule. Our unfortunate English pronunciation of the vowels makes scientific etymology doubly difficult to us. It not only obscures real relationships but suggests false ones.

I shall take the four heads of vowel-change in a slightly different order from that given above, as follows: Substitution, Assimilation, Dissimilation, Loss. This will be found most convenient for the Latin.

I. SUBSTITUTION.

1. *Splitting of the A-sound.*

I shall commence with the most universal and most important change, that of Indo-European *A* into *æ*, *ɛ*, *ø* in Graeco-Italian, and *ā* into *ā*, *ē*, *ō*. It seems needless to prove that this change must have been originally phonetic. There is no reason to believe that it was anything else. Short *e* and *o* are not raised powers of any of the simple vowels; and *a*, with which they are certainly connected, is heavier than either of them, the order in respect of weight being *a*, *o*, *e*; which is preserved in the conservative Latin. In Greek indeed, as I have mentioned above, the three vowels seem to be used in the *A*-scale, *a* being the radical; and *ε* and *ο* the first and second steps respectively; and I have suggested, what is quite possible, that in Greek the *a* may have been allowed to sink to a dull indistinct sound, like the Sanskrit *a*, and also the English in very many words, e.g. the final *a* in *altar*. That *o* is heavier than *e* is best seen by comparing the same formations in

Sanskrit and in Greek; thus *jajāna* = *γέγωνα*, where the short *a* of the Sanskrit is equivalent to *e*, and long *a* to *o*; similarly *bhārāmi* = *φέρεω*, but *bhāra* = *φόρος*.

It was to be expected *a priori* that the strongest and by far the commonest vowel of the original speech would be more corrupted in use than any other. Instances of its variation are common enough within our own island. The full sound of the *a* is more commonly retained in Scotland, whilst in England it has been thinned down to the *e*-sound, though spelt generally as *a*, and sometimes changed to *o*; in which case the Scotch frequently shews the *e*-sound, spelt as *ae* or *ai*. Thus the original *na* is still found in Scotland, but it is more commonly *nae* (*e*-sound); whilst as in England we have the same sound, *na*, beside *no*. Scotch *awā* is English *away*. *Twā* is *two*, *snaw* is *snow*; but *baith* (*e*-sound again) is *both*, *laith* is *loth*, *gae* is *go*. In none of these changes is there anything dynamic: they are purely phonetic variations.

*Found
throughout
Europe.*

These instances would shew that this variation was not confined to the Graeco-Italian. It extended over all the European peoples; no doubt very gradually. I have already said it is not found in Sanskrit, which has no *ē* or *ō*, and its *ē*, *ō* are equivalents of *ai*, *au*. It has therefore been inferred that the tendency was not felt till after the separation of the East from the West¹. This seems at variance with the statement which I made in my second Lecture, that the North European families parted off from the Eastern, before the nations of Southern Europe had left them; since this change is certainly found in members of the Teutonic and Slavonic groups. How is this difficulty to be solved? Was there some connection again formed between the Germans and the Greeks after their first parting? Nothing would seem more improbable. Was this vowel-change the result

¹ By Curtius, *Gr. Et.* p. 85.

of independent phonetic action in the separated peoples? This again is hard to believe, when we see the simple words and roots which exhibit the same variation. I think we must conclude that the tendency to this change existed even before the first separation. We can well imagine that there may even then have been dialectical differences, distinguishing to some extent the fathers of the future nations. The causes producing these differences need not have acted uniformly: while the ancestors of the Hindus and Greeks agreed in most points, the ancestors of the Greeks and the Germans may have agreed in one. This partial action would be quite in accordance with what I have said above about the formation of dialects within the Greek.

The weakening from *a* to *e* clearly was the first in time. *History of the change from A to e.* It has spread more widely than that from *a* to *o* over the Western languages, and is also more prevalent in particular languages. Thus (to borrow one or two examples from Curtius) we find that from Indo-European *dakan*, "ten," have come Greek *déka*, Latin *decem*, O.H.G. *zehan*, Gothic *taihun* (modified from *tihun* by a phonetic law of the language by which *i* and *u* become *ai* and *au* before *r* and *h*), Slavonic *deseti*: also from *sad*, "to sit," Greek *ēdos*, Latin *sedes*, Gothic *sita*, Lithuanian *sedma*. It will be observed that the Slavo-Lithuanian agrees with the Greek and Latin: in the Teutonic family while the Old High German has *e* the Gothic has *i*. This *i* is said to be weakened from *e*, as also *u* from *o*¹; but it is strange that the middle step should have passed away without a trace of it being left, for there are no *ē* or *ō* in Gothic. May we infer that this tendency was not fully developed within the Teutonic race till Goths were distinct from Germans, after which time each people carried out the change in its own way? At all events the

¹ Curtius, *Gr. Et.* p. 85.

use of *i* and *u* in Gothic is very parallel to that of *e* and *o* in Greek¹.

The tendency then to let *a* sink into *e* was clearly strong among the Western peoples before their separation. Traces of the change from *a* to *o* are much harder to find. Thus *Βους* and *bos* are the O.H.G. *chuo*, Slavonic *goveđo*. But whilst *aktan* is *octo* in Graeco-Italian, no vowel-change is to be seen in the Gothic *ahtau*, or Lithuanian *aszūtni*; *ovis*, "a sheep," is *avis* in Gothic and Lithuanian as much as in Sanskrit. This tendency had scarcely begun to act at the time of the separation of the Northern and Southern peoples: it was then checked in the North, while circumstances, which we cannot now certainly ascertain, favoured its development among the Graeco-Italian people. We may now trace the progress of both changes among that people a little closer.

The change from *a* to *e* had passed widely over the language (as we should naturally have expected) before its division into Greek and Latin. It had seized on far the greater number of roots. AS had become ES; AD, "to eat," was ED; BHAR was BHER, &c. Even the suffixes had in numerous cases been affected by it. Thus *patar* had become *pater*, *-tara* was *-tero* (*δεξι-τερο-*, *dex-tero-*), *-mana* was *-meno-* as in *διδω-μενο-*, *vertu-m(e)no-*; though in this and similar words, *alumnus*, *columna*, the *e* fell out altogether after passing through intermediate *i*, which survives in *terminus* and *femina*.

¹ Thus in Greek we had beside radical ΤΡΑΦ, the stems *τρεφ* and *τροφ*. Similarly in Gothic; Indo-Eur. BANDH, "to bind," becomes *BAND*, whence *bandi*, "a band" or "bond," and *bandja*, "a prisoner;" the present of the verb is *binda* (analogous to *τρέφω*): and though *band*, "I bound," does not correspond to *τρέποφα*, but rather to *ἐτραφον*, yet *bundum*, "we bound," gives the required analogy—*i* : *u* :: *e* : *o*. This *band* (singular) stands to *bundum* (plural) as *οἶδα* to *ᾔδμεν*.

² Curtius, *Gr. Et.* p. 85.

Still there are many words which either had not been attacked before the separation, or in which the "feeling" of one or other of the languages (one would like to naturalise, for it is impossible to translate, the admirable German "Sprachgefühl") preserved the older *a*. Thus we see *magnus* still retaining the old vowel, while the Greek *μέγας* has yielded; compare also *anguis* with *ἔχis*, *manere* with *μένειν*: on the other hand, the Greek is more faithful in keeping *ἐλαχός* by *levis*. It is interesting also to observe how the less cultivated dialects of the same language clung to the older form. Thus we find the Doric *τράφω* by the Attic *τρέφω*; *ἱαρός* by *ἱερός*, and many others. In all such cases the Attic may have the weaker form; but we may well say that its weakness is oftentimes its strength, when we remember how it can employ its old and new forms to express different orders of action.

Those roots which preserved the old *a* intact seem to have been most commonly those which contained a guttural. This we should expect, the position of the organs being similar in the formation of the two sounds. Thus AK, the widely spread root denoting "sharpness," never sank to either *EK* or *OK* with the short vowel: *ᾠκός* and *ὄκι-ος* probably came through *ā*. Compare the numerous derivatives *ἄκων*, *ἀκωκή*, *ἄκρος*; *acus*, *acuo*, *acies*, &c. Similarly AG, PAG, TAG, retain the *a* in both languages as it was in the original. Still we find *a* in many cases where this explanation is not applicable. Thus *ambhō* (*ἄμφω*, *ambo*), *ambhi* (*ἀμφί*, *amb-*), are examples of the retention of the original vowel in Graeco-Italian, while the influence of the labials *m* and *bh* has produced *ubhāu* (Sk.), *uba* (Zend), *oba* (Slav.); *ambhi* has become *umbi* in Old Saxon, *umpi* in O. H. G. (modern German *um*).

The transition from *a* to *o* is a much less accomplished fact. That it took place in Graeco-Italian times is shewn by the *o* occurring in both languages in many certainly old words: as *ὄφις* = *ovis*: *βοφο* = *bovi*-; in both of these cases

The change from a to o less frequent before the Graeco-Italian period.

the *o* is already due to the following *v*. Further, *ὄκτω* = *octō*, *δόμος* = *domus*; *ὄζειν* is answered by *odor*; *ὄρνυμαι* by *orior*. Still the list is not great, especially of roots: and there are many examples which shew how partially the tendency acted. Thus we have *da-re* by the side of *δι-δο-ναι*, *asinus* by *ὄνος* (for *ὄς-νος*), *lavere* by *λούειν* (= *λοφειν*): whilst the Greek presents the original form in *μαλακός* (Latin *mollis*), in *καρδία* (Latin *cord-*), and others. We find the Greek dialects wavering: thus the Aeolic in general takes the *o*: as in the Aeolic poem which comes at the end of the Theokritean idylls we have *ὀμνάσθην* for *ἀναμνασθηναι*¹; and in Sappho's first fragment *ὀνία* occurs for *άνία* (l. 3)². But in the numerals we find the Doric *ἑκατὶ* corresponding to the Attic *εἴκοσι*: on the other hand the vowel of *τέσσαρες* is older than that of the Doric *τέτορες*. And a similar wavering in the Attic is shewn by forms like *λέαινα* (for old *λεαν-γ a*) by the side of *λεοντ-*; *τεκταίνομαι* (for *τεκταν-γ o-μαι*) by *τεκτον-*, Sanskrit *takshan*. As a general rule, however, the Doric is distinguished from the Attic by the *a*-forms: thus we have *ἄρεος*, *Ἰάρων*, &c. on good inscriptions: *γα* for *γε* is universal both in Doric and Aeolic: we also find forms like *πράχω* and *πράφω* in Theokritus and Pindar; but these last may be due to the over-subtlety of grammarians. Traces of the same change within the Latin may be seen in *portio* compared with *pars*; *scob-s* (by *scabere*), and especially in proper names, as Valerius and Volesus, Fabius and Fovius. In these last it is impossible that the change should have been dynamic; as may have been the case with *scobs*, &c.

Applica-
tion of the
new vowels.

O is most commonly employed by the Greek in suffixes. Thus the original *navas* becomes *νέφος*, and the old Latin agrees in presenting *nouos*, weakened afterwards to *nouus*. So also *patar-as* (genitive of *patar*) becomes *πατερ-ός*; in

¹ Theok. XXIX. 26.

² For other examples see Ahrens, *De Dialectis Graecis*, I. 76.

Latin this termination has further passed into *i*: *pat(e)ris*. In both Greek and Latin the formative suffix *as* (originally *as*) for neuter nouns sank to *es* in the oblique cases: thus *γένος*, genitive *γένε(σ)ος*: *genus* (originally *genos*), *generis*, for *genes-is*. The suffix *as* is however retained without weakening in many neuter nouns, as *κέρas*; while in neuter adjectives it is weakened to *es* in the nominative, as *σαφές*. The participial suffix *ont* (originally *ant*) has suffered the same weakening in Latin but not in Greek; compare Sk. *bharantam* with Gk. *φέροντα*, Lat. *ferentem*. One relic of the Graeco-Italian form is to be seen in *euntem*, weakened from *eontem*. It will be observed that here the Greek has retained the *a* in the case-suffix; and the rule holds generally that where a final nasal has been lost, *a* is kept and not weakened to *o*: thus we find *δέκα* from *dakan* (*decem*), *ἑπτα* (*septem*), *ἔδειξα* from *a-dik-sam(i)*, the Sanskrit *adiksham*; compare Latin *dicebam*. In the vocative, Greek and Latin agree in weakening the Graeco-Italian termination *o* to *e*, the most convenient of all vowels to end a word. Passing to roots we shall find that *o* appears but sparingly in Greek; OA and OP have been mentioned above: the two languages agree as to the vowel in Latin *VOL* (*uolo*, *uolt*, weakened to *e* in *uelle*, &c., Greek BOA in *βολ-γο-μαι*, Aeolic *βόλλομαι*¹, Attic *βουλομαι*: and *o* occurs very frequently in Latin roots, though mostly in connection with a *v*, as *uom-o* (*Feμ-ε-ω*), *uoc-o* (Gr. FEΠ), *uol-uo* (*Feλ*), &c., or other labial sound, as *mor-ior*, *dom-o*, &c., from which it may be inferred that the Graeco-Italian vowel was commonly *e*, which in Latin was assimilated to the form *o*.

Something has been already said of the great gain which the Greeks derived from this splitting of the *a*-sound: many examples are given in Curtius' Essay, already referred to². Special gain of the Greek language hereby.

¹ Theok. xxviii. 15.

² *Comp. Phil. and Clas. Scholarship*, p. 88 et seqq.

We have seen how they used the three vowels to distinguish the three stages of action, expressed by *γραφ*, *τρεφ*, *τροφ*: also to distinguish different cases which all originally had but one vowel *a*, as *πόδας*, *πόδες*, *ποδός*¹. The Latin here, as generally, gave up all its gain, in weakening all alike to *e*, though it then distinguished the genitive singular by further weakening to *pedis*. But perhaps it is in conjugation that we see best the strength and precision which the Greek has gained by the original weakening. It has been enabled thereby to employ the different vowels, for the root, the suffix, and the internal modification of the root. Thus, how much more varied in sound, how much more expressive of keen perception of logical distinction, is *γέγονα* than the Sanskrit *jajāna*. Here the *a* is left in both languages to form the suffix²; but in Greek the radical vowel is changed to *o* instead of being merely raised from short to long *a*: whilst the reduplicated syllable retains the original *e*.

Compare too the first person plural *γεγόναμεν* with the Sanskrit *jajānima*. Here the use of the vowels *e* and *o* in the first syllables enables the Greek without sacrifice of euphony to keep the strong original *a* for the connecting vowel between the root and termination. The Sanskrit on the contrary allowed the *a* to sink into *i*: and the result was that the link was too weak to maintain the balance of the word, and it became corrupted, as *jajanima* to *jajñima*, or *tatanima* to *tēñima*. Again, it is by this alternation of the *a* with the dull *o* that the Greeks are able to distinguish one tense from another, as *ἐκτείναμεν* (aor.) from *ἐκτείνομεν* (imp.); *ἔχομεν* (pres.) from *ἐχέμεν*, the halfway form between *ἐχέμεναι* and *ἔχειν*. Lastly, the Greek is a great gainer by

¹ See page 5.

² The original suffix of course was *μ*; *a* was only the connecting vowel which facilitated the pronunciation of the two consonants. But, as we know, *μ* was lost: and thus from the grammatical point of view, *a* must be regarded as the existing suffix of the 1st person singular.

the three verbal forms in *-aw*, *-ew*, and *-ow*, as compared with the single *-ayāmi* of the Sanskrit. No doubt in practice this distinction of forms was not so well used as it might have been, by being rigidly applied to express distinct ideas. Still on the whole the Greek verbs in *-ow* have an active sense, and verbs in *-ew* are neuter (contrast *πολεμῶ* and *πολεμέω*), whilst those in *-aw*, being closely connected with nouns in *η*, suggest at once their meaning from their derivation¹. In Latin the vowel-system became rigid at too early a period to allow of the developments we see in Greek: consequently we find in it forms which have lost their distinctive meaning: thus *-(a)o* of the first and *eo* of the second conjugation are generally used merely as conjugational forms with no distinct trace of their old signification.

There is one point which may be mentioned here, when we are estimating the gains of the Greek language. In *γέγονα* the *ε* of the reduplicated syllable properly represents the vowel of the root. But at the earliest period at which the language is known to us, the vowel had come into universal use in this particular tense, to the exclusion of the radical vowel: we find for instance *τέτυφα* not *τύτυφα* as we ought, and as we find in Sanskrit *tu-tōp-a*. And in the same way *ι* has come into universal use for strengthening the present stem by reduplication, in the somewhat rare instances where that method is employed; *δίδωμι* stands in contrast to Sanskrit *dadāmi*². In such cases Greek is less interesting than Sanskrit as a living organism; it is more beautiful as an almost perfect machine.

Side by side with the extension of *ā* to *ǣ*, *ē*, *ō*, stands that *Traces of similar division of ā*
of *ā* to *ā*, *ē*, *ō*. Curtius goes so far as to say that for every

¹ *Comp. Phil. and Class. Schol.* p. 46.

² What is stated here of Greek, is true of Latin also to a considerable extent. Latin here occupies a sort of midway position between Sanskrit and Greek. Its system of reduplication will require fuller discussion afterwards.

Greek \bar{a} , η , ω we may expect an original \bar{a} ¹. However this may be, and it seems somewhat difficult to prove, at least some examples may be given to shew that the idea of this variation was present to the consciousness of the Graeco-Italian language as something possible, on the analogy of the division of short a , but much less strongly felt, inasmuch as the cases in which it could occur were much fewer. Thus $\acute{\alpha}\kappa\acute{\iota}$ and $\acute{o}\kappa\iota$ -us stand together over against Sanskrit $\acute{a}\kappa\upsilon$ from AK: and $GN\bar{O}$, despite the reappearance of \bar{a} in $gn\bar{a}rus$, is certainly a Graeco-Italian form of the original $GN\bar{A}$: $d\bar{o}num$ with $\delta\acute{o}(r\acute{\iota})s$ may be another example. The entire vowel-range is found in the declension of the suffix *-tar*, as Sanskrit *datāram*, $\delta\alpha\tau\eta\acute{\rho}\alpha$ and *datōrem*; within the Greek *-τηρ* and *-τωρ* are used with apparent indifference; $\beta\rho\alpha\chi\upsilon\tau\eta\tau\omicron$ is in Latin *brevitāti*-. A well-known instance of the change in Greek is the weakening of α as a nominal suffix to η in Ionic, and to a less extent in Attic. The real nature of this change is quite lost in most grammars, which give α as a Doric broadening of η .

¹ *Gr. Et.* p. 384.

LECTURE VII.

VOWEL-CHANGE (*continued*).

2. *Greek Diphthongs.*

THE substitution of *a*, *e*, *o* for original *α* led of course to a corresponding increase in the number of diphthongs, in Latin originally as well as in Greek: but the Latin had suffered almost the whole of them to fall into disuse before the classical period of its literature.

In Greece the number of the symbols for the diphthongs was still further increased in classical times by the introduction of *η* and *ω* to denote the long vowel sounds, which had existed previously with no more mark of distinction than is found between *ǣ* and *ā*, *ī* and *ī*, *ū* and *ū*. Thus the language possessed in the room of the original *ai*, *au*, *āi*, *āu* no less than twelve symbols, *ai*, *ei*, *oi*, *av*, *ev*, *ov*, *āi*, *ηi*, *ωi*, *āv*, *ηv*, *ωv*: besides the rather rare *υi*. The diphthong *iū* is only found in the Teutonic family.

There seems no reason to doubt that these were all at first what their name implies, double sounds; in which the transition from the first to the second sound was distinctly audible. It is probable from the nature of the case that two sounds should be sounded as two, and probable also from their origin. When it was not a dynamic modification

*Diphthongs
were origi-
nally
"double
sounds."*

of a simple vowel intensifying the idea which that vowel conveyed, a diphthong arose either from the coalition of two distinct vowels by the loss of an intermediate consonant, e.g. λέγε(μ)εν: or secondly, from a spirant being resolved into a vowel in accordance with laws of consonantal substitution to be mentioned in their place, e.g. ἀνδρείος from ανδρε-γο-ς, λόγιοιο from λογο-σγο (where the σ has left no trace of itself): or thirdly, from the prolongation of the original vowel-sound to compensate for the loss of a following consonant; thus when ν was lost in μονσα the first form must have been μοοσα, as is shewn by the Doric μῶσα, while the new vowel was weakened to υ in Attic μούσα, to ι in Aeolic μοῖσα; indeed these new diphthongs often remained double sounds in Aeolic later than any other form of Greek speech¹. But in whatever way these vowels were brought together, it is clear that they would not at once coalesce into one sound; λέγεμεν, for example, would for some time assert its right to an unimpaired number of syllables: but the crasis would begin in the case of identical vowels meeting: similar vowels would then be modified, and lastly by analogy even dissimilar ones. "Similar vowels" are α, ε, ο, as sprung from the same origin, and so passing more easily into each other; each of them is "dissimilar" to ι and υ.

*History
of the
change of
dissimilar
diphthongs
in Greek.*

It is difficult, perhaps impossible, to trace the history of the Greek diphthongs, and fix the time when they ceased to be double sounds—each sound presumably the same as when it occurred separately; neither can we do more than guess with more or less of probability at the new single sound of each. There can be little doubt that the corruption of the diphthong must have been little later in time than the causes which produced it. Two vowels following immediately upon each other are commonly troublesome to pro-

¹ Thus we have ποῖα in Theokritus (xxix. 5) and Ἀχιλλεῖος (id. 34), and many other forms for which see Ahrens, *De Graecis Dialectis* (i. 105).

nounce: the most simple (and probably the oldest) combinations of language shew us vowel and consonant occurring alternately¹: consequently there must have been a tendency from the very first either to drop one of the two vowels which met together, or to let them coalesce into some third sound. The same word is found with different sounds as far back as the days of the Iliad and Odyssey. Thus Leo Meyer² quotes *κυνοραϊστῶν* (*Od.* XVII. 300), but *θυμοραϊστῶν* (*Il.* XVI. 591): and there is plenty of variety in the case-terminations, like *τείχεϊ*, *τείχει*, &c. Of course we cannot say for certain what the sound of *αι* or *ει* was, when each formed a single syllable: but it must have been one single sound, or very nearly so. If we pass from the earliest to the latest classical literature of Greece, we shall find in the Aeolic idylls of Theokritus³ proof that at least in some words in certain parts of Greece the double sound could be retained even to the Alexandrian period. Still we may probably safely say that at that time the single sound was almost universal. Our best evidence for the character and progress of the weakening is to be found in the change of the spelling in different dialects. Here the tendency is too marked to be doubtful: the second vowel of *dissimilar* diphthongs is commonly dropped in writing—in Doric, as *χάλκεος*, *εὔρεα*⁴, &c.—and still more in Aeolic, especially in the Boeotian variety of the dialect, accompanied often by a weakening of the first vowel also: thus Ahrens quotes the forms *ἀρχῆος* (for *ἀρχαῖος*), *Ἀχηός*, *Ἰππυς* for *Ἰπποις*, *αὐτῷ* for *αὐτῷ*;

Tendency to drop the second vowel, the first being sometimes modified.

¹ See Leo Meyer, *Vergl. Gram.* i. 285, where numerous examples of Greek and Latin diphthongs are given, from which I have borrowed largely in this lecture.

² *Id.* p. 298.

³ See examples in note on last page.

⁴ Theok. II. 30, VII. 78. I am aware of course that Theokritus does not even in the strictly bucolic poems always use pure Doric forms; but I quote from him only when the principle in question could be proved from other less accessible authorities, such as the fragments of Epicharmus and Sophron.

even sometimes where the diphthong is dynamic, as *Φυκία* for *οικία*¹. The Attic on the contrary keeps the full symbol: though in all likelihood it, like the rest of Greece, was losing the full sound, perhaps more slowly. Curtius suggests² that *ει* and *οι* must have been double sounds in B.C. 403, the year of the introduction of the symbols *η* and *ω*: otherwise what would have been gained by the distinction between *ει* and *ηι*, *οι* and *ωι*? But surely at least a change of pronunciation from the old to the new school is shewn by the often quoted lines of Aristophanes (*Clouds*, 849):

*ἰδοί, κρέμαι, ὡς ἡλίθιον ἐφθέγγατο
καὶ τοῖσι χεῖλεσιν διερρηκόσιν.*

Greek *αι*.

Prof. Curtius may be right in saying³ that the second line gives no clear indication of the pronunciation of the *αι* by the still old-fashioned Pheidippides: yet at least it shews that the new sound was thinner, perhaps like the English *a* or German *ae*: which would correspond to the *η* in the Boeotian *ἀρχῆος*, and also to the *ae* by which *αι* was transliterated in Latin; for *ae* had the *e*-sound (English *a*) in the days of Lucretius⁴, and probably much earlier. It may then, I think, be considered at least probable that in *αι* the stronger *a* was by degrees overcoming the *ι*—not without being itself modified by the contact—and had nearly done so in the Alexandrian period. This is commonly proved by the rhyme of *ἔχει* to *ναίχῃ* in Callimachus' well-known epigram⁵. In reading the Greek of Sophocles and Plato we should probably do well to give both sounds as far as possible. The diphthong *ει* seems to have wavered in sound between *e* and *ι*, neither sound being strong enough to

Greek *αι*.

¹ *Gr. Dial.* i. 187.

² *Erläuterungen zu meiner Schulgrammatik*, p. 19.

³ *Studien zur Griech. und Lat. Grammatik*. Vol. i. Part 2, p. 276.

⁴ *Corss. Auspr.* i. 186.

⁵ xxviii. 6. (ed. Meineke).

absorb or exclude the other. This is shewn best by Latin transliteration. No doubt this test is not so sure in the case of the diphthongs as of the other sounds, because the Latins lost their diphthongs at so early a period: but the variation of spelling in Latin, where we have sometimes *e* and sometimes *i* may be fairly taken to prove at least the various pronunciation in Greek: e.g. *gynæceum* and *platea*, but *Iphigenia*. Probably therefore the sound was sometimes that of our "grey," where the first vowel is predominant but the second still audible—sometimes like "either" (old pronunciation): the varying sound of this word, and varying spelling *œ*, *ei* and *ie* in English¹ shew the flexibility of the combination. The sound of *oi* is probably *Greek oi*. given pretty correctly by our English "boy:" it then passed into a modified *u*-sound—the Upsilon in fact—as we have seen in the Aeolic, e.g. *τῦς* for *τοῖς*; and at a much later period to *i*, which sound it has in modern Greek². Those diphthongs which ended with *u* probably *Greek au*. passed into monophthongs much more rapidly than the others: the heavier *u*-sound could not be kept distinct like the lighter *i*. Thus *av* must have soon become the German *au* and our *ou*; it is nearly impossible to keep the two vowels distinct: and *ou* we know had the sound of Indo- *Greek ou*. European *u*, which had been weakened in Upsilon, as I shall shew in the next lecture. Perhaps the Athenians retained something of the *o*-sound longer than the rest of the Greeks,

¹ The history of these changes is elaborately traced by A. J. Ellis in his *Early English Pronunciation*; see especially pp. 92 and 104.

² Curtius, *Erlott.* p. 23. I may say in passing that modern Greek can be no guide to the pronunciation of the ancient tongue. If anything is certain, it is that the sounds of the old Greek cannot have remained unaffected by so many centuries. We might as well expect to see the temples and houses of Athens unimpaired by time, as to hear the exact accents of Pericles or Sophocles from the lips of a modern Greek. No doubt particular sounds may have been exceptionally preserved; but as a rule incessant change is the inevitable lot of every language.

for we find *οἱ μὲν ἔχουσι τάφο μέρος* in the inscription of the Athenians who fell at Potidaea, B.C. 432¹. It is not likely that this *τάφο* is the Doric form of the genitive: rather this spelling shews simply that *o* was still predominant in the compound. The last diphthong *eu* is most difficult of all. No help can be got from the Latin, which had lost both *eu* and *ou* at a very early date. But the Greeks wrote *Lucius* as *Λεύκιος*, perhaps on the analogy of *λευκός*. Probably the effect of the clear *ε* would tend to turn the sound into *oi*, as it is in German; but this is really a diphthong.

No doubt the second vowel of all these six diphthongs, where it preceded another vowel, passed into its corresponding semi-vowel *y* or *w*—from which indeed it had often originally sprung. On no other hypothesis can we conceive the possibility of sounding combinations like *αιεί* or *εῖοι*.

*Diphthongs
with first
vowel long.*

The six diphthongs formed with *ā*, *η* and *ω* need not detain us long. That *āi*, *ηi*, *ωi* soon became monophthongs, is evident from the nature of the sounds, for it is impossible to give the *i* more than the slightest effect after the long preceding vowel, and from the fact that the *i* was so early 'subscript,' the symbol, though not the sound, being retained doubtless to avoid confusion between cases and persons which would otherwise have been identical. The other three *āu*, *ηυ*, *ωυ* can scarcely have differed in sound from *au*, *eu* and *ou*, and were as a matter of fact soon disused even by their inventors, though retained by grammarians for the sake of symmetry.

*Similar
diphthongs.*

All the diphthongs which we have described so far, arose from the union of dissimilar vowels. What took place when similar vowels—*a*, *e*, *o*—met? Sometimes they became a diphthong, neither symbol being changed, but the two sounds tending more and more to coalesce into one (as in the cases above-mentioned), e.g. *θεός*, &c. But this was comparatively

¹ See Thiersch, *Gr. Gram.* pp. 40 and 77 (Engl. Trans.).

rare. As a rule the combination of sound was effected by the ordinary laws of phonetic change. The effort to produce two different vowels one after the other was too great, and therefore the difference was done away. The stronger vowel either sank into the weaker (Substitution) or assimilated it to itself (Assimilation). The two identical vowels remained for some time side by side: then they either coalesced into one long vowel, or by a further process of substitution, principally found in the Attic, the second vowel was again weakened, and so a new, and this time dissimilar, diphthong was produced. These changes are quite familiar to you all; they occur in every noun and verb you inflect. But since grammars do not generally give any principle for these variations, and merely call them "dialectal," I think it worth while to exhibit them in a connected form, in order that you may clearly see the causes to which they are due. I borrow the examples partly from Ahrens' useful work on the dialects, but principally from Leo Meyer's *Vergleichende Grammatik*¹.

The six possible combinations of similar diphthongs are $a + e$, $a + o$, $e + a$, $e + o$, $o + a$, $o + e$. Those in which a is the final vowel rarely occur except in inflections. Now in all these cases we see in the different dialects sometimes substitution, sometimes assimilation, sometimes both. In order to treat them all together I shall be obliged therefore to bring in here my account of Greek vowel-assimilation, which I do with the less reluctance because it is only found in these combinations, and, as I have before said, is a very unimportant agent of phonetic change in Greek. The middle step is given as often as it occurs.

1. $a + e = a + a = \bar{a}$: as αἰτιάεσθαι = αἰτιάασθαι² = αἰτιάσθαι.
 $e + e = \eta$: as ἐνίκαε = ἐνίκη.

This last weakened form is Doric (Theok. VI. 45; cf. ὄρη,

¹ I. 286—304.

² II. x. 120.

VII. 50, &c.). In the first change the stronger α has assimilated to itself the weaker ϵ ; in the second the ϵ has been substituted for the original α . The same processes will be seen in all the other combinations. As in the first case, in Doric $\alpha + \eta = \alpha + \bar{\alpha} = \bar{\alpha}$, as $\alpha\eta\delta\acute{\omega}\nu = \bar{\alpha}\delta\acute{\omega}\nu$ (Mosch. III. 9).

2. $\alpha + o = \alpha + \alpha = \bar{\alpha}$: as $\alpha\acute{o}\varsigma$ (Attic $\epsilon\acute{\omega}\varsigma$) = $\bar{\alpha}\varsigma$ (Dor. Aeol.),
 $\epsilon\pi\acute{\alpha}\xi\alpha\sigma\omicron$ = $\epsilon\pi\acute{\alpha}\xi\alpha^1$,
 $\alpha\lambda\kappa\mu\acute{\alpha}\omega\nu$ = $\alpha\lambda\kappa\mu\hat{\alpha}\nu$,
 $= o + o = \omega$: as $\acute{o}\rho\acute{\alpha}\omega\nu$ = $\acute{o}\rho\acute{o}\omega\nu^2$ = $\acute{o}\rho\hat{\omega}\nu$,
 $\kappa\acute{\epsilon}\rho\alpha\omicron\varsigma$ = $\kappa\acute{\epsilon}\rho\hat{\omega}\varsigma$,
 $= o + \upsilon = \omicron\upsilon$: as $\text{Κρονίδα}(\sigma\gamma)\omicron$ = Κρονίδου (At.).

Similarly by analogy,

$$\alpha + \omicron\upsilon = o + \omicron\upsilon = o + \omega = \omega:$$

$$\text{as } \gamma\acute{o}\alpha\omicron\upsilon\sigma\alpha = \gamma\acute{o}\acute{o}\omega\sigma\alpha^3 = \gamma\acute{o}\hat{\omega}\sigma\alpha,$$

$$\gamma\epsilon\lambda\acute{\alpha}\omicron\upsilon\sigma\alpha = \gamma\epsilon\lambda\acute{o}\omega\sigma\alpha^4 = \gamma\epsilon\lambda\hat{\omega}\sigma\alpha,$$

(but $\gamma\epsilon\lambda\hat{\alpha}\sigma\alpha$ is also Doric, where the α has assimilated the $\omicron\upsilon$).

From these two combinations it will be seen that breadth of sound is by no means necessarily the characteristic of the Doric as opposed to the Attic. In the second, indeed, the Doric and Aeolic α assimilate the \omicron , and thus we see, for example, the broad Κρονίδα and $\hat{\alpha}\nu$, instead of the Attic Κρονίδου and $\acute{\omega}\nu$ (from $\acute{\alpha}\omega\nu$): but in the first combination it is the Doric which substitutes ϵ for α , and so gets the thinner sound $\acute{\epsilon}\nu\acute{\iota}\kappa\eta$ instead of Attic $\acute{\epsilon}\nu\acute{\iota}\kappa\alpha$. No doubt as a general rule Doric retained broad sounds, which were refined in the Attic so as to substitute elegance for strength; but this rule has many exceptions, which confirm the statement I have already made, that dialects are the result of *imperfectly* developed tendencies.

3. $\epsilon + \alpha = \alpha + \alpha = \alpha$, esp. after a vowel: $\acute{\iota}\gamma\acute{\iota}\epsilon\alpha$ = $\acute{\iota}\gamma\acute{\iota}\hat{\alpha}$,
 $= \epsilon + \epsilon = \eta$: $\tau\acute{\epsilon}\acute{\iota}\chi\epsilon\alpha$ = $\tau\acute{\epsilon}\acute{\iota}\chi\eta$,
 $\epsilon\text{-}\alpha\kappa\omicron\upsilon\sigma\alpha$ = $\eta\kappa\omicron\upsilon\sigma\alpha$.

¹ Theok. IV. 28.

² Il. I. 350.

³ Il. XXII. 363.

⁴ Theok. I. 96.

This combination is rare. In Latin, as Leo Meyer observes¹, it remains unaltered, as in *aurea, doceam*, &c.

4. $\epsilon + o = o + o = \omega$: as $\epsilon\text{-}\phi\lambda\omicron\nu = \omega\phi\lambda\omicron\nu$,
 $\phi\iota\acute{\epsilon}\omega = \phi\iota\lambda\acute{\omega}$,
 $= o + \upsilon = \omicron\upsilon$: as $\phi\iota\acute{\lambda}\epsilon\omicron\mu\epsilon\nu = \phi\iota\lambda\omicron\iota\acute{\mu}\epsilon\nu$,
 $\gamma\acute{\epsilon}\nu\epsilon\omicron\varsigma = \gamma\acute{\epsilon}\nu\omicron\upsilon\varsigma$,
 $= \epsilon + \upsilon = \epsilon\upsilon$: $\alpha\upsilon\tau\epsilon\omicron\nu = \acute{\alpha}\upsilon\tau\epsilon\upsilon\nu$ ²,
 $\epsilon\tau\epsilon\omicron\varsigma = \delta\tau\epsilon\upsilon\varsigma$.

The last change—to $\epsilon\upsilon$ —is confined to the old Ionic of Homer, the Aeolic and the Doric. In the second—as in the third of (2), and again in the second of (6)—we see that when $o + o$ come together the second sound sinks to υ , especially in the Attic Greek. The second vowel has assimilated the first to itself, and then, unable to maintain itself beside its self-created rival, it passes into the weaker υ . The third modification, on the contrary, shews an immediate weakening of the second vowel, with no change of the first. It is especially frequent in pronouns, as $\sigma\epsilon\iota$, $\mu\epsilon\upsilon$, &c.³ Of course it must not be inferred that the other change to $\omicron\upsilon$ was unknown in other dialects than the Attic: the ϵ -sound was commonly too weak to maintain itself distinctly.

5. $o + a = a + a = \bar{a}$: as $\acute{\alpha}\pi\lambda\acute{o}\alpha = \acute{\alpha}\pi\lambda\acute{\alpha}$,
 $= o + o = \omega$: as $\delta\acute{\phi}\alpha\tau\alpha = \acute{\alpha}^2\tau\alpha$,
6. $o + \epsilon = o + o = \omega$: as $\acute{\iota}\pi\nu\acute{o}\epsilon\nu = \acute{\iota}\pi\nu\acute{\omega}\nu$ ⁴,
 $= o + \upsilon = \omicron\upsilon$: as $\lambda\acute{o}\epsilon\tau\rho\nu = \lambda\omicron\upsilon\tau\rho\nu$.

The change of $o + \epsilon$ to ω belongs to the severer Doric; the second is the regular weakening, and is found even in Doric as well as ω .

When the *same* vowel occurs twice, the natural result is clearly that the two should coalesce in one long single sound: as is the case in $\acute{\kappa}\acute{\epsilon}\rho\alpha\tau\alpha$, $\acute{\kappa}\acute{\epsilon}\rho\alpha\alpha$, $\acute{\kappa}\acute{\epsilon}\rho\bar{\alpha}$; $\gamma\acute{\epsilon}\nu\epsilon\sigma\epsilon$, $\gamma\acute{\epsilon}\nu\epsilon\epsilon$, $\gamma\acute{\epsilon}\nu\eta$;

¹ Verg. Gram. p. 294.

² Il. xii. 160.

³ e.g. Theok. iii. 36 (Doric), xxix. 16 (Aeolic).

⁴ Ar. Lys. 143.

αἰδώς, αἰδώς. But just as when similar diphthongs had become identical by assimilation, the second vowel was weakened, especially in the Attic, so is it also here. Thus the combination $\epsilon + \epsilon$ becomes in Doric and Aeolic η , and $o + o$ becomes ω : *λέγε(μ)εν* is *λέγην*, *ἵππο(σ)ο* is *ἵππω* in both—at least in the severer form of the Doric, spoken in Laconia, Crete, Cyrene, and Magna-Graecia. But in Attic the case is different. In Attica the two vowels must in each case have been sounded as a diphthong, long enough to allow the second vowel to become weakened, to ι and υ respectively: *λέγειν*, *ἵππου*. So also when the second vowel-sound is the mere prolongation of the first caused by the loss of a dental, or the dental-spirant s . Thus $\epsilon\iota$ is the result in Attic (sometimes in the other dialects) of $\epsilon + \sigma$, e. g. *εἰμί* for *εσ-μι* (Aeol. *ἔμμι*, severe Doric *ἤμί*, softer Doric *εἰμί*): of $\epsilon + \nu$, e. g. *εἰς* for *ένς* (severe Doric *ἦς*): of $\epsilon + \nu\tau$, as *τυφθεῖς*: of $\epsilon + \nu\theta$, as *πείσομαι* for *πενθ-σομαι*. Again, $o + \delta = \omicron\upsilon$, as *πούς*: $o + \nu\tau = \omicron\upsilon$ in *δούς*. These are Doric as well as Attic; the softer Doric however sometimes allows the second sound to drop altogether: as *ἐρίσδεν* for *ἐρίσδεμεν*, not *ἐρίσδην*; *ἀμπέλος* for *ἀμπελὸν*²; and many others. In all these the sense of the original length of the last syllable was kept up by not letting the accent be thrown back. The Aeolic sometimes employs a peculiar change of its own by which the second o passes into ι instead of υ , as $o + \nu\tau = \omicron\iota$ in *φορέουσι*, &c.³ On the same analogy the Aeolic alone has weakened the second vowel in $a + a$, as *τάλαις* for *τάλανς*, *φασί* for *φαντί*: perhaps this analogy may even account for the odd form *θναίσκω*⁴, equivalent to Doric *θνάσκω*, Attic *θνήσκω*; and *Αἰσίοδος*, “he that goes the lucky road,” as the name Hesiod was explained to mean. Our general result seems to be that in these cases

¹ Ahrens, II. 318.² Theok. xxviii. 11.³ Theok. iv. 8, v. 109.⁴ See Ahrens, I. 96.

the Doric almost always lets the vowels coalesce: the Attic nearly always weakens, sometimes too the Aeolic, thus producing real diphthongs, to be governed by the same laws which regulate those which originally sprang from dissimilar sounds.

I thus conclude this very imperfect sketch of the history of the Greek diphthongs, a subject which (perhaps because the facts are considered to be already known) is not fully dealt with in any philological work with which I am acquainted.

3. *Latin Diphthongs.*

These, as I have already said, were once as numerous as 3. $AI = ai$,
those of the old Greeks. But at a very early age they dwined into simple sounds. Their history has been fully traced by Corssen: the account here given will be little more than an epitome of his results. I will take the six diphthongs, ai , ei , oi , au , eu , ou in order.

It would appear from inscriptions¹ that *ai* was sometimes (i) *Latin* retained, sometimes written as *ae*, from the third century *ai*.
B.C. to the latest times: but it was doubtless in every case pronounced as *ae*, whilst the older method of spelling was of use to distinguish the genitive singular² of the first declension, for example, from the nominative plural, which was written with *ae*. This rule however was probably never universal: we find *tabelai datai* (nom. pl.) in the *Epistola de Bacchanalibus*³, B.C. 186, &c. Perhaps the old *ai* may have been retained longer in the root-part of the word than in suffixes or prepositions: thus we find *aides* and *aidilis* in the well-known epitaph on L. Scipio, son of Barbatus, whilst on the Columna Rostrata of Duilius⁴ we find *prae-sens* and *praeda*

¹ *Ausspr.* i. 182.

² The old termination of this case seems to have been *ayas*; whence *dis*. Then if the *s* were retained, the *a* absorbed the *i*, as in *familias*. Corssen however gives examples of *aes*, all being female proper names (i. 184). See Schleicher, *Comp.* p. 558.

³ Mommsen, *Corpus Inscriptionum*, Vol. i. No. 196.

⁴ *Ib.* No. 195.

(i.e. *prae-hid-a*—the same base as *pre-he(n)d-o*). In the letter however of the consuls forbidding the Bacchic rites (quoted above), we have *aedes*, and *iniquom*. Clearly no fixed rule for the spelling can be given. Corssen however observes that in legal notices from the time of Gracchus to Caesar *ae* is found universally instead of *ai*: after which time *ai* began to reappear: one result, we may suppose, of that restoration of archaic forms of which we have a specimen in Claudius' attempt to remodel the alphabet¹. That the pronunciation of the diphthong was not unlike the German *ā*, and our *a*, is shewn by the fact that it began by degrees to be written as *e*. It was so pronounced by countrymen² in the time of Lucilius, as we find from Varro, *L. L.* 7. 96, who quotes the forms *Cecilius* and *pretor*: while educated men preserved something of the double sound. In inscriptions after the Christian era *e* appears with increasing frequency: and an inscription dating 242 A.D.³, which presents the three words, *Aimilius*, *Sabinae* and *Furie*, would seem to shew that at that time the three forms could have the one simple sound of the Latin *e*.

The same authority points out that *ai* was also weakened to *i*. This takes place especially in case-endings, as *uiis* from *uia-is*, &c.; also in *prae* when in composition, as *priuat*-*tus*, *pri-mus*, *pri-die*, *priuignus* (for *prai-ui-genus*), &c.; and generally in compound words, as *occido* from *caedo*, *iniquos* from *aequos*, *inquiro* from *quaero*. The middle form is sometimes retained, e.g. *exaestumo* (Plaut. *Merc.* 566), *pertaesus* regularly.

(ii) *Latin*
ei.

In like manner the diphthong *ei* would seem to have lost its double sound at the earliest times of which we have any knowledge. When it occurs in root-syllables, as in *deiu-o-s*, *leib-er*, *deic-o*, *ei-re*, &c., all of which are found as common forms in the oldest inscriptions; it arises from vowel-intensi-

¹ Tac. *Ann.* xi. 13.

² Corssen, *ib.* p. 186.

³ *Id.* p. 188.

fication, and must be presumed to have been, when thus consciously employed, a true diphthong. But from the very earliest date we find in inscriptions a simple *i* instead of *ei*. Thus in the epitaph¹, quoted above, of L. Scipio, the “*unus bonorum optumus*,” we find *filios*, not *feilios*: in the *Ep. de Bacchanalibus* (also referred to before) we find *scriptum* (though *screiptus* occurs in many later inscriptions²) by the side of *deicerent* and *inceideretis*: *primos* on the Col. Rostrata³, though *preimos* (from *praimos*) is much commoner⁴. On the other hand we know from Varro and Quintilian that as early as the lifetime of the former the country people used *e* where we find *i* in classical Latin. Thus they said *uella* and *speca*, not *willa* and *spica*: *leber* instead of *liber*⁵. There is every reason to suppose that this pronunciation is still older: *lēber* would not be taken from *liber*, the form of spelling then becoming commonest, but from *leiber*: and if this *e* be as old as the *i* we find in inscriptions—for which supposition further reason will appear below—then undoubtedly at the time of the First Punic war, *ei* can have been no longer a diphthong, but (as Corssen supposes) a middle-sound, between *e* and *i*, that sound of which Quintilian (speaking of his own time) says, “*neque e plane neque i auditur*.”

How old this wavering between *e* and *i* is in Latin may be seen from the inscriptions in places where there is no vowel-intensification, no *ei* to be taken as a common origin, in the verb- and case-endings. Thus for example in the epitaph of Scipio alone we find *fuet* and *dedet* by the side of *cepit*: *fuit* and *cepit* occur in the epitaph of his father Barbatus: *cepit* and others on the Columna Rostrata. Besides these, but only in later inscriptions, so far as I

¹ Mommsen, *Inscr.* 32.

² Mommsen, *Inscr.* 196.

³ Quint. l. 4. 17.

⁴ See Corssen, l. 209.

⁵ Corssen, *ibid.*

⁶ *Ib.* l. 4. 8.

am aware, we find forms in *ei*, as *gesistei* in the epitaph¹ of Scipio the Flamen Dialis, and *venieit* in the lex Thoria². Now this *ei* cannot denote anything but an ambiguous sound between *e* and *i*—the former the common sound in the mouths of common men—the latter becoming fixed by literary use: and the fact of this symbol being thus employed at a comparatively early period seems to me to shew that it must some time before have lost the double sound which it originally possessed, at least when it arose from vowel-intensification. The wavering between *e* and *i* is exactly analogous to the Greek variation, which we have seen above³.

It is noticeable that *ei* is found as a middle step between *ai* and *i*, e.g. in the dat. plur. of the A-declension, *incoleis* for *incola-is*; *tabuleis* in the lex agraria of Thorius mentioned above. It occurs also much more commonly as a weakening from *oi*: thus *plourume* is found in the epitaph of L. Scipio—a weakened form of the nom. plur. *plourumo-is*, still further weakened in the classical *plurim(e)i*. The final *s* of the nom. plur. is found in *eeis* (*Ep. de Bacch.*) i.e. *eo-is*—in classical Latin *ii*: and how easily this *ei* passed into *e* is seen in the *ques* (= *qui*, nom. plur.) of the same inscription—which also contains *eiis* as a dat. plur.: and the Columna Rostrata has *castreis* for *castro-is*. Analogous to the plural *queis* and *ques* are the singular *quoi*, *quei* on the tomb of Barbatus⁴, classical *qui*: I do not know that *que* occurs: but

¹ Mommsen, No. 33.

² *Ib.* No. 200. See Corssen, i. 212.

³ *Ei* is sometimes found in Plautine MSS. and is then retained by Ritschl, e.g. *Merc.* 409, *veis* (for *vis* from *volo*); *curabeis* (*id.* 526); *abeis* (*id.* 748). These manuscripts however have suffered too much from copyists to be accepted of their own weight as trustworthy evidence of archaic forms; they may however confirm the surer indications given by inscriptions. (See Corssen, i. 207.)

⁴ Mommsen, 30. It is wrongly written *qui* by Donaldson in the *Varro-nianus* (p. 261): where however a very useful collection of inscriptions and other records is given.

for *ho-i-c* we have the classical *hic* and the common *hec*, both found on the tomb of L. Scipio. Ritschl retains in Plautus the locative forms *herei* (*Mil. Glor.* 59) and *die septimeï* (*Pers.* 260): but *die crastini* (after the MSS.) in *Most.* 881.

It seems probable then that *ei* was a middle sound between *e* and *i*: that in the oldest times of which we have any record it inclined rather towards *e*, and continued to do so always in the mouths of the common people: from whom it passed into the Romance dialects: whereas the literary dialect substituted *i* for it.

The history of the diphthong *oi* in Latin is at first the same as that of *ai*. It early passed into *oe*, being pronounced so probably as early as the First Punic war, at which date we find *Poenicas* on the Columna Rostrata¹. But the old spelling was retained generally. We have no other in the old epitaphs, e.g. that of L. Scipio, which begins—*Honc oino' ploirume*, &c. *Oe* occurs regularly first in the *lex Thoria* (B.C. 111), e.g. *foedere* against *foideratei* of the *Ep. de Bacch.*, and it is regularly used in the laws given by Cicero, *De Legibus*, thus *oenus*, *ploera*, *coerator*, &c. (The case-endings also early suffered the same change, as evidenced by the well-known *pilumnoe poploe* (nom. plur.) of the Salian hymn). But a further alteration of this diphthong had begun as early as the *lex Thoria*, in which we find *unus*, *procurare*, &c.; *plures* and *curator* in the *De Legibus*. Shortly after the beginning of the first century B.C. this wavering ceased and *u* appears as the regular representative of the diphthong. Corssen² gives the process thus—*oi*, *oe*, *ö*, *ü*, *u*: the

¹ The authority of this inscription is doubtful. It seems clear that it was not engraved as it now stands till the time of the empire; and it is questionable whether it was then faithfully copied from some older column (as Quintilian seems to have thought) or whether (as Mommsen thinks on internal grounds) it was the work of a "grammaticus ætatis Claudianæ," See the *Corpus Inscriptionum*, p. 40.

² I. 201.

stage *ū* he thinks proved by the transliteration of some Greek words into *oe*, as *Hoelas*: *ū* = Greek *υ*: the full *u* was established, he believes, in the Augustan age. But probably a simpler passage was commonly effected thus—*oi*, *ui*, *u*¹.

OI is also weakened to *ī* and *ē* from very old times in case-endings, e.g. *Barbati* (gen. sing.) and *plourime* (nom. plur.) on the epitaph of L. Scipio. In both these cases a middle step *ei* is probable (see p. 152). The same change may have taken place in radical syllables, e.g. *uicus* (by the side of *oikos*)² and *pomerium* for *pomoerium*³. But *uicus* (*ueicus*) at least may be a regular example of intensification—the first step in the *i* scale, in which case there would be no Graeco-Italian *voikos*, but separate formations (of different steps) in the separate languages.

(iv) *Latin*
au.

AU is the only diphthong which the Latin language has preserved, that is, in the generality of cases; for here also we find a weakening—to *o*—common in early times. It is observable however that the new form in *o* never drove out the old one in *au*, but the two remained side by side. Thus we find *aula* weakened to *olla*, *lautus* to *lotus*, *plaustrum* to *plostrum*; among proper names we find *Clodius* by *Claudius*, *Plotus* by *Plautus*. It does not however appear that the Romans availed themselves generally of these double forms (as the Greeks would have done in their place) to denote different modifications of the original idea. Differences indeed in proper names naturally lent themselves to distinguish different branches of the same family: in some few other words also a change of meaning is perceptible: thus *lotus* was restricted to the original idea “washed,” while *lautus* expressed the result of the washing, with many minute shades of meaning. But *aula* and *olla* do not seem to have denoted different kinds of pots, or *plaustrum* and *plostrum* different

¹ See Curtius, *Gr. Et.* 646.

² Corssen, i. 202.

³ *Id.* i. 204.

shapes of carts: and the same is true in most other cases. We must then conclude that the different forms were used by different classes of people, and Corssen supposes¹ that *au* was employed by educated men in words where *o* was heard in the mouth of the countryman. This is borne out by the anecdote of Suetonius (*Vespasian* 22), which Corssen quotes. The homely Emperor was taken to task by the courtier Florus, for calling a *plaustrum* a *plostrum*: and retaliated next day by pronouncing his critic's name as befitted ears so polite—*Flaurus*. Naturally this distinction between the two sounds had this effect, that some words in which *o* was the original vowel—not merely a vulgar corruption—began to be spelt with *au* in the literary dialect. An example is *ausculari* (as in Plaut. *Merc.* 575, ed. Ritschl, and many other places). Here there can be no doubt that *osculari* is the true form: *ostium* and other words, derived from the same base *os*, are never spelt with *au*. But *ausculari* became the received form—perhaps on the false analogy of *auscultare*—to give a fashionable colour to so common a proceeding. Sometimes a false derivation may have helped to bring about the same result—or may itself have been only the result of the new spelling—as in *aurichalcum*, a word borrowed from the Greek *ὀρείχαλκος*, and originally written with an *o*².

The diphthong passes regularly in classical Latin into *o* in composition. Thus we have *suffoco* (root *fauc*), *explodo* (root *plaud*). Sometimes it passes into *u*, as *accuso* (root *caus*), *defrudo* (root *fraud*). Indeed even *frudavi* (compare *frus-tra*) occurs in Plaut. *Trin.* 413, and this form together with *cludo*, the proper name *Chusius*, and others, seems to shew that the change was not confined to compounds³.

Somewhat analogous to the change of sound from *au* to *o* in Latin is the pronunciation of *au* in French—and in some parts of the North of England “law” is pronounced like *lo*.

¹ I. 167.² *Ib.*³ *Ib.* I. 170.

The common pronunciation of *au* in English is a weakening of another kind.

(v) *Latin*
eu.

The diphthong *eu* occurs very rarely in Latin; it was regularly weakened to long *u*. The few examples—mostly proper names—where it occurs are in inscriptions, and have been mentioned¹ in the lecture on Vowel-Intensification.

There are a few Latin words in which *eu* occurs in compounds, as *neu* from *ne-ue*, *seu* from *se-ue*, *neuter* from *ne-uter* and some others. The pronunciation of these words by the Romans was probably not unlike our own.

(vi) *Latin*
ou.

The last diphthong has passed through much the same history as *eu* except that it lingered later in use. It is often found in the old inscriptions: *Loucana* is on the tomb of Barbatus, *plous* and *ioubeatis* in the letter concerning the Bacchanalia, *iouranto* in the Bantine table. *U* begins to appear in the inscriptions of the age of the Gracchi². Thus in the lex Thoria *iubeo* and *ioubeo* occur indifferently; *iudex* and *ioudex*; *iuro* and *iouro*. Sometimes the *o* assimilated the *u* to itself, and then further passed into *u*. Thus *poplicus* occurs frequently in inscriptions, beginning with the *Ep. de Bacch.*, passing in the lex agraria Thoria into *publicus*. Similarly we find *nountios*, *nontiatius*, *nuntius*; and *noundinum* (contracted from *nouendinum*) in the *Ep. de Bacch.*, *nondinum* in the Tab. Bant., and the common *nundinum*³. Sometimes the *o* weakened itself into *u*: so that the diphthong passed through the stages *ou*, *uu* and then *u* as before. Thus *souos*, which occurs in the beautiful epitaph of Claudia, quoted by Mommsen (*Rom. Hist.* i. p. 60, Eng. trans.),

Souom mareitom corde deilexit souo,

¹ See page 121.

² *Lucios* on the tombs of Barbatus and his son, which Corssen gives as examples of the weakening at a still earlier period, is more probably from *Leucios*.

³ Corssen, i. 174.

passed to *suuos*, and that to *suos* and *suus*. So also occur *flouios*, *fluuios* and *flu-ere*¹.

The following table gives the results of our discussion of the probable sound of the diphthongs: the new sounds being those which were either heard universally in classical Greek and Latin, or to which the languages were respectively tending. The equivalent sounds are to be pronounced as on the Continent: it is not possible in many cases to give English equivalents.

Original.	Greek.	Latin.
ai	ä (English <i>a</i> , nearly)	ä or e, and i
ei	e and i (English <i>a</i> and <i>e</i>)	e or i
oi	ö, u and i	ö or u
au	au (English <i>ou</i>)	au or o
eu	oi (?)	u
ou	u (English <i>oo</i>)	u

It will be seen that in both languages the *u*-sound on the whole predominated; except that in Greek it had a tendency to pass sometimes into *o*, sometimes into *ü*, owing to the common weakening of the *u*. The *a* was invariably modified by the other vowel: *i* corrupted whatever sound it followed and perished after doing so; except when it comes after the weak *e*, when the battle was decided in favour of neither combatant, but they parted on equal terms.

¹ Corssen, i. 175.

LECTURE VIII.

VOWEL-CHANGE (*continued*).

4. *Weakening of U in Greek.*

4. *U = u-
psilon.*

THE full *u* of the Graeco-Italian was retained by the Latin peoples, but weakened by the Greeks to the sound of the German *ü*. This is the reason why in words borrowed from the Greek the Romans never employed their *u* to represent *υ*, but borrowed the symbol *γ* (Υ) as well as the sound. The fuller sound however was not lost to the Greeks: but it was denoted by the diphthong *ou*, which early lost its double sound; and was then employed in the Boeotian variety of the Aeolic dialect in words where all the other Greek dialects had suffered original *u* to sink to *υ*. Thus in Boeotian we find *γλουκού* for *γλυκύ*¹: the quantity however is not different; which shews that the sound of *ou* cannot then have been double. In the fragments of Corinna we find also *τού* (in common Boeotian *τούν*) instead of *τύ* or *σύ*, identical in sound with the Latin *tu*. So also we find *οὔμές*, not *ύμέης* (frag. 9), and *φοῦσα* (*φῦσα*) in frag. 12. This weak sound of *υ* in the common Greek is clearly owing to the "muscular relaxation" which Max Müller speaks of: the

¹ Ahrens, i. 180.

lips were not fully protruded. The French *u* is a similar example of weakened articulation: in England the weakening is principally confined to the south; Cumberland is still pronounced by natives with the full vowel sound which we denote by *oo*: the tendency (as is always the case) is progressive: it is not long since Russia and Prussia were called in England *Roossia* and *Proossia*: and already we sometimes hear *put* pronounced with the sound of *u* in *but*.

5. *Further Vowel substitution in Greek.*

We have seen that in Greek the original *a* is regularly broken up into *a*, *ε*, and *ο*; and that *u* is weakened into *υ* or *ι*. The sound of the original *i* remained unaltered. Beyond this there was little variation in the main body of the Greek language. A vowel of one scale never regularly passed into one of another scale. This took place sometimes irregularly, and generally in one only of the head-dialects: most commonly, as might have been expected, in the weak Aeolic. But this change never passed so completely over any one of them as to deserve the name of a phonetic law, even for that dialect. For example the weakening of *a* into *υ* is most commonly found in the Aeolic. Yet that same Aeolic retains the *a* in words where the other dialects have suffered it to sink as far at least as the intermediate *ο*; thus *ἰπά* is the Aeolic form of *ἰπέ*—see Sappho, *Frag.* I. 9, &c. The change therefore cannot be said to be peculiar to any one dialect: nor yet to any class of words: sometimes, but not generally, it is explicable as produced by the influence of adjoining sounds. It is essentially *sporadic*—and as such, to be carefully distinguished from those *regular* vowel-changes mentioned above which have passed so generally over all the dialects, that they must be regarded as being

5. *Sporadic change in Greek.*

among the characteristic marks which distinguish the Greek from its sister languages.

I shall give the more important of the small list of words in which the Greek has suffered original *a* to pass into *ι* or *υ*¹.

(i) *Weakening of a to ι*.

(i) *A = ι*.

This will be found in most cases to have been helped by an intermediate *ε*, which is kept in some forms of the word. Thus in *ἐνίπτω* for *ἐν-ΐπ-τω* the *a* of the original VAK is weakened to *ι*. But the gap is bridged by the form (F)*επ-ος*². In other cases the Latin has preserved a Graeco-Italian *e* which has passed into *ι* in the Greek: as in *equos* by *ἵππος*, Sanskrit *aṛva*, where the original *a* is seen. It will be observed in both these instances that the weakened vowel precedes two consonants—and this is generally the case—as in *κίρ-νῃ-μι* (root KEP), *πίτ-νω* which retains in the 2 aor. *ἔπесον* the original vowel of ΠET, and many others. Here the word was sufficiently strengthened by the combination of consonants to allow a weakening of the radical vowel. A further reason is found in many other verbs, such as *πίπτω*, *γίγνομαι*, &c.; here the original forms were *πιπέτω* and *γγένομαι*: the *ι* which seems radical in the contracted forms is really the vowel of a reduplicated syllable, the pronunciation of which was weakened as its origin became less distinctly felt. Sometimes the radical syllable itself has suffered as in *ἀτ-ιτ-άλλω*, and *ὀν-ίν-νῃ-μι*. In verbs where the reduplication retained some of its significance the *ι* became at last the formal vowel of reduplication, as in *τί-θη-μι*, *δί-δω-μι*, &c.

More examples of this weakening are to be found in the

¹ More examples may be found in Curtius (*Gr. Et.* p. 641, &c.), Leo Meyer (*Vergl. Gram.* i. 115, &c.), and Schleicher, p. 58.

² This intermediate step is not however found in Sanskrit: where (in default of any *ε*) many common words have the original *a* weakened at once to *ι*, as *pitar* (father); *duhitar* (*θυγατερ*) and others.

Doric, and still more in the Aeolic. Thus *ιστία* is Doric for *έστία*, where the Graeco-Italian *e* is warranted by Latin *Vesta*. The Boeotian has *ιών* for *έγών*, and *σιός* for *θεός*, &c.¹; so also the Laconian; and we find the Aeolic *πίσυρες* in Homer.

(ii) *Weakening of a to u.*

As between *a* and *ι* an intermediate *ε* could generally be (ii) *A=u*. traced, so here also *a* passes commonly into *υ* through *ο*. Thus the original *nakt* (night) passed through Graeco-Italian *noct*—which the Latin retained, before it reached the Greek *νυκτ*. Similarly *kam* (Sk. *sam*) is Latin *com* and Gr. *σύν*. In the Aeolic, as mentioned above, words have often been thus attached, which the Attic retained unscathed; as *στύμα*, *ὔμοιος*², and the common Homeric *ἀμύμων* (*μῶμος*). Many of these variations may have been produced (as Curtius points out³) by the influence of neighbouring liquids or nasals, which from their semi-vowel nature more especially corrupt neighbouring vowels. The same author observes that words like *μάρ-τυρ*—compared with the cognate words ending in *τωρ*, remind us of the parallel Latin weakening from *da-tor* to *da-tur-u-s*: the name of the Attic magistrate, the *πρίτανις*, is doubtless formed from *πρό*: as *πύματος* is from *πος* as found in the Latin *po(s)ne*⁴.

The weakening of *u* to *ι* seems sufficiently attested by a (iii) *U=ι*. few examples—e.g. *ὑπερφίαλος* from *ΦΥ*. Compare the common *ὑπερ-φυ-ής*, and the Latin *super-bus*, where the *δ* corresponds regularly to *φ* as the representant of original *bh*; *σί-αλος* from *σῦ-ς*, and some others⁵. It occurs however but rarely, and can hardly be considered as more than a very distant indication of the possibility of this change which became general at a very much later period—probably not before the 11th century⁶.

¹ See Aristoph. *Ach.* 808, 906; *Lys.* 81, 174, &c. Thuc. v. 77.

² Theok. xxix. 25 and 20.

³ Gr. Et. 644.

⁴ Id. p. 646.

⁵ See Curtius, Gr. Et. 648.

⁶ Erläuterungen, p. 22.

6. *Further Vowel Substitution (Latin).*

This has found place in Latin to a much greater extent than in Greek. We have seen above how fully even down to their most flourishing period of literature, the Greeks had preserved their original store of diphthongs, whilst the Latin at the age of Plautus had retained only one. We have also seen how vividly the distinction remained in the Greek mind of the three different vowel-scales, by the insignificant list of transitions from *a* to *i* or *u*, of which some of the more important have been given in the preceding section. The same precision must not be looked for in Latin. It has been seen indeed already that the distinction of scales was certainly received by the Italians from their forefathers of the Graeco-Italian age: for some few of the traces of modification of the vowels, each in its own scale, have been given above, and numerous others may be found in the first volume of the new edition of the *Aussprache*¹. But that elaborate method could not be maintained in a language which suffered nearly all its diphthongs to degenerate into single sounds. Indeed the most striking characteristic of the Latin language is the exceeding weakness of its vowel system. The vowels have no longer any life in them. They are often the mere servants of the consonants to which they cling, and from which they take their tone: never (as in the Greek) do they expel the consonants by their own fuller life and energy. The original vowel—the simple sound *a*—passed down every possible step of degradation: and this degradation—historically traceable on the stone and brass—has been not too fancifully connected with the gradual weakening of the Roman character. The spirit of the Roman grew weak as the breath upon his lips.

The steps of this vowel-degradation have been arranged

¹ See especially i², 348—628. This part of Corssen's work is almost entirely new.

*Peculiar
weakness of
the Latin
vowel-system.*

by Corssen¹ in the following table, which is also given by Dr Donaldson²:

A passes to O	.....	U	.....	E	.....	I,
O passes to U	.....	E	.....	I,		
U passes to E	.....	I,				
E passes to I, U,						
I passes to E.						

From which table we see that while *a* retains its position as the primary vowel, never derived from any other, and while *o* is only derived from *a*, the other vowels *u*, *e*, and *i*, are merely substitutes of stronger sounds, not indeed indifferently, but in accordance with no law of vowel-scales. We shall see hereafter that the decision, which vowel shall be taken, rests generally with the following consonant. The vowel-change does not originate with the consonants: it is caused, as has been already insisted on, by weakness of articulation. But the direction which that change follows does generally rest with the consonants. This will be clearly seen in the lecture on Assimilation, where I shall describe that vowel-change which arises from weak articulation, but is modified by the affinities between particular vowels and consonants. At present I shall describe such change as is due to simple weakening, where the effect of neighbouring sounds is at least not distinctly traceable. As however I have contrasted the vowel-system of the Greek and Latin, I may in passing give a few instances where assimilation has been at work, in order more fully to shew the differing genius of the two languages. They are cases where the Latin has borrowed from the Greek, and has changed the word, after it had become naturalised, to suit its own phonetic laws. They are taken from different parts of Corssen's chapters on "Umlaut³." He has treated the subject so fully as

*Contrast
between the
Greek and
the Latin.*

¹ *Ausspr.* i. 299.

² *Varr.* p. 318.

³ i. 296—327.

to leave little else to be done but to select examples from his stores. From them will be seen how rigid and lifeless, how dependent on neighbouring sounds, is the vocalism of the Latin, as compared with the Greek. Take the five words, *Hecuba*, *crapula*, *catapulta*, *tribulus*, *epistula*. The penultimate vowel in each is *u*. But when written in the original language—Ἑκάβη and κραυπᾶλη, καταπέλτης and ὄβελος, ἐπιστολή—we see three vowels, *a*, *e*, *o*. The reason is, as will be hereafter shewn in the chapter on Assimilation, that a labial and (more especially) *l* have a prevailing tendency in Latin to fix the preceding vowel (when weakened by some other cause) at *u*. Similarly *i* has an affinity to *n*, and *e* to *r*: μηχανή and βαλανεῖον become *machina* and *balneum*; φάλαρα and τέσσαρα become *phalerae* and *tessera*. Indeed, before the suffix *-ro-*, hardly any other vowel but *e* is found, as in *libero*, *aspero*, &c. Contrast with this the varied abundance of the Greek καθαρο-, φοβερο-, ἄλμυρο-, πονηρο-, &c.¹ When for ease of utterance, a vowel is inserted between two following consonants of a borrowed Greek word, the vowel is determined by the following consonant. Thus Ἀσκληπίος becomes *Aesculapius*: δραχμή and Ἀλκμήνη become *drachma* and *Alcmena* in Plautus, because of the labial nasal *m*. But μνᾶ and τέχνη become *mina* and *techina* (Plaut. *Capt.* 642), because of the following *n*.

I proceed to give examples of vowel-weakening, independent in the main of assimilating tendencies, under three principal heads—in formative elements (both formative and inflectional suffixes), in composition, and in reduplication.

(i) *Weakening of formative syllables.*

First then, in formative elements, we may see in the nom. sing. *o* the Graeco-Italian termination of the base (itself weakened from Indo-Eur. *a*) in classical Latin weakened to *u*. We have *filios Barbati*—with the *o*—on the

¹ Corss. I. 273.

epitaph of Scipio. Similarly the neuter nom. ended in *os*, like the Greek *genos*, then *genus*: the *o* is still seen in the gen. of many nouns, as *corporis* (for *corpos-is*): though others have weakened it to *e*, as *generis* for *genos-is*. This *os* can also be traced in the case-endings. Thus in the Ep. de Bacch. we find *senatu-os* (weakened through *senatuis* to classical *senatus*), and *corpor-us*, which speaks of the older *corpos-os*; compare γένες-ος afterwards γένους. That the *u* of the genitive plural is also weakened from *o* is shewn by the form *duonoro(m)* = *bonorum* on Scipio's tomb: and the tenacity with which the Italian provincials still clung to this, as to other old vowel-sounds, is shewn, e.g. by the "*loro*" = *illorum*, of modern Italian. As Corssen well says¹: "the peasant of the Roman campagna at this very day pronounces this genitive ending, as it sounded on the lips of the mighty Romans who twenty-one centuries ago wrote on the tomb of Lucius Cornelius Scipio that he was "the best of the good." Yet the tombs of the Scipios, father and son, shew that in written Latin the transition from *o* to *u* was even then taking place: we have *Lucius* on the earlier, but *Luciom* and *uiro(m)* on the later. On the whole it would seem that *o* was retained more commonly before final *m*, in the singular acc. and nom. of the neuter, and in the gen. plur.: while it gave way sooner to *u* before the case-ending *s* of the nom. sing. But this rule is by no means universal. After *u* the *o* was regularly kept down till the time of the Emperors, to avoid the repetition of the same sound. Quintilian says² that he was taught to write *seruos* and *cervos*, but that, at the time when he wrote, the spelling *servus* and *cervus* had come in. It would seem that the educated Roman employed *u* instead of *o* (and similarly *i* instead of *e*) in many cases where the provincial Italians at the same time used only the *e* and *o* which they had received from their

¹ I. 216.² I. 7, 26.

forefathers: and this weakening—which however, like the original division of *a* into *a*, *e*, and *o*, materially increased the force and precision of the written Latin—probably dates from about the 2nd Punic War. The older *e* and *o* are again to be seen in numberless inscriptions of the later empire, examples of which are given by Corssen, and so passed into the modern Italian and other Romance languages, which (as is now a recognised fact) must be derived, not from the classical Latin, but from the dialects of the provincials.

A curious analogy to this process is pointed out by Corssen¹ in the history of the Umbrian. This dialect would seem to have passed through the very same stages centuries earlier than the languages of the rest of the Italian stock. Thus in the oldest Umbrian inscriptions we find *o* corrupted to *u* as much as, and often more than, in classical Latin: we have *puplum* (*populum*) and *kum* (= *con* or *cum*). These date from a time earlier than the conquest of Umbria. But in the so-called New Umbrian—the monuments of which however reach back to a time older than the oldest Latin records—we again find the *o*: as in *poplom* and *com*. And Corssen's hypothesis is doubtless correct, that the victorious Roman soldier carried with him into Umbria the old pronunciation of the vowels which was heard at Rome long after the subjugation of Italy, and which remained ever after the pronunciation in the conquered district.

The connecting vowel in the conjugation of verbs has been regularly weakened in Latin from the original and Sanskrit *a*; e.g. Indo-Eur. *bhar-a-mas*, and Sanskrit *bhard-mas*. It has passed through the Graeco-Italian *o*, where the Greek halts (*φέρ-ο-μεν*), and rarely stays even at *u* (*uolumus*), but passes on to the thin *i*, as in *ferimus*². This weakening

¹ I. 249, &c.

² The long *a*, *e*, and *i* of the 1st, 2nd, and 4th conjugation respectively, result from contraction.

is doubtless due to the unsubstantial character of the vowel—the mere link between base and termination. Before two consonants, as *-nt*, *-nd*, the vowel has taken a somewhat different course. Traces of the *o* are seen in the *dederont* of inscriptions, and quoted by Quintilian¹ together with *proba-ueront*, as proofs that the Latin possessed this *o* as well as the Greek: also in the *uiuont*, *loquontur*, &c. of Plautus, where the preceding *u* has preserved the *o*. The next step *u* maintains itself in *ferunt*, &c. but passes on, not to *i*, but *e* in *ferentem* and *ferendum*. From Corssen's examples it would appear that this fluctuation between *u* and *e* prevailed from the time of Plautus to the end of the Republic: when the *e* was definitely established, though it never expelled the *u* from legal or other formulae, e.g. *iure dicundo*, *familiæ erciscundæ*. The *e* in these cases is due to the fact that before two consecutive consonants the vowel sound is deadened, as will be shewn below. Still in some formations (and also in radical syllables) where *o* has been weakened to *u*, the process stops there, e.g. in *Acheruntem*, *homunculus*, &c., in *hunc* and *nuntius*; so also the *u* is retained in *alumnus*, *columna*, &c., and in *arbustum* and *arbuscula*—perhaps by affinity to *m* and *s*. *E* itself passes into the weaker *u* in *diurnus* for *dies-nus*, comp. *hodiernus*: *r* being a common Latin weakening from *s*.

In final syllables the original vowel commonly sinks to *e*: a fact which Corssen explains by suggesting that though *i* be a thinner vowel, yet *e* is the most suitable for terminations because in pronouncing it the organs of speech vary the least from their position when in perfect rest². Examples will occur at once: the 3rd plur. perf., e.g. *monuere* has sunk from an original *monueront*, through the customary *monuerunt*: then the final *nt* was dropped by that weakness of articulating the final syllable, which is so noticeable in Latin,

¹ I. 4, 16.² I. 273.

and which will form the subject of a later lecture. Either form was in use indifferently in the last century of the Republic, and traces of the weak form are much older. Whether there was an intermediate *i* at one period, seems uncertain: Corssen¹ quotes an isolated *dederi*: which, together with *dedrot* and *dedro*, may serve to shew the great fluctuation of usage. In the 2nd sing., e.g. *utere* for *uteris*, the loss of *s* has led to the same result. So also in some nominatives of pronouns the final *s* has been dropped, and the vowel thus left defenceless has suffered the usual degradation: so *ipse* has an older form *ipsus*, and *ille* is doubly weakened from *ollus*. In the ablative, the loss of *d* has frequently caused a double form, as from *marid*, *mari* and *mare*; the tendency was always to pass on to *e*, but the necessity of keeping the cases distinct often protected the *i*. In the later times of the Empire the cases became hopelessly confused: the dative—and even the genitive and accusative after losing their final consonants—could sink into final *e*: thus Corssen² quotes *Tebere* for *Tiberim*, and *mare* for *maris*. But to notice all the corruptions of the late Latin, interesting though they be as illustrations of the process which led to the confusion of cases in the Romance languages, is beyond our present plan. In the accusative as well as in the ablative of the I-declension in classical Latin, we see the affection for *e* in the terminating syllable; the *e* in fact was almost final, for the *m* was hardly sounded. Many words exhibit both forms: thus we have both *navim* and *nauem*, *turrim* and *turrem*, with an increasing preference for the latter form. A few are found only with *i*, as *sitim*, *uim* and one or two others. Very rarely does the Latin avail itself of the double form to express diversity of meaning; thus *partem* is the regular accusative, while *partim* is used for an adverb, as are a very large number of old accusatives from extinct

¹ l. 70.² l. 269.

nouns in *-ti*, as *raptim*, *statim*, &c. The regular transition from *i* to *e* in the nominative of nouns in *-in-*, e.g. *nomen* from base *nomin*, is probably also due to its being the final syllable. The original *a* is kept in Sanskrit *nāma* from base *nāman*. The *e* is kept in further compounds, as *momen-tum*, &c., because followed by two consonants. The last instance of weakening in case-endings which need be quoted is that of the vocative of nouns of the O-declension, which is regularly weakened to *e*, as *Postume*.

The lightness of the vowel *i* is shewn in the frequent change from *e* before suffixes. In the majority of cases this may be accounted for by the affinity of *i* to *t* and *d*. But there are plenty of examples which shew simple weakening. Thus *pudi-bundus* is from a base *pude*¹, *pati-bulum* from base *pate*; *rubi-cundus* from base *rube*; and it was in all probability first written *rubecundus*, like *uerēcundus*, &c. A greater weakening is seen in *domi-bus*, *uersi-bus*, &c. from *domu-*, *uersu-*; still greater in *publi-cus* from *poplo-* and *popolo-*, and indeed invariably before the suffix *-co-*. With this rigidity Corssen² contrasts the flexibility of the Greek—shewn e.g. in *Ὀλυμπιακός* and *θηλυκός*. In *uili-cus*, the vowel weakened is *a* itself. The other instances (they are numerous) of this weakening before suffixes will be given in the lecture on Assimilation, which acts as a modifying cause determining the vowel in each case.

Next we come to weakening in Composition.

First we will take those cases where the first member of the compound has suffered: in these the loss has generally befallen the last syllable of a substantive, and is analogous to weakenings just mentioned in the last section. Thus *a* is weakened to *i* in *tubi-cen*, *causi-dicus*, &c.: *u* to *i* in *corni-ger*, *arci-lenens*, *flucti-uagus*, &c.; *o* very frequently to *i* in *armi-ger*, *fati-dicus*, and many other examples given by

¹ Corss. I. 294.

² *Ibid.*

(ii) Weakening in composition:
(a) of the first member of the compound,

Corssen¹. In all these cases the appearance of the light vowel *i* explains the nature of the change: it was the striving for lightness of form which caused the weakening. Sometimes though rarely we find *e* instead of *i* as in *bene-volus*, *male-ficus*, &c.; where Corssen² believes rightly, as I think, that the first member is the noun not the adverb: for the change of the first syllable will be mentioned under Assimilation. In these cases he also thinks that the *e* is later than the *i*, which is found in the MSS. of the comedians: this seems to me uncertain. At all events it appears³ that in many words the provincial Italian retained the older *e* where it passed in the written language into *i*: the compounds above given may therefore be instances where some accidental cause has presented a more original *e*, in the literary as well as in the spoken language.

So regular had the use of *i* at the end of the first part of the compound become, that even words taken from the Greek have their spelling altered to suit the rule. Thus, as Corssen points out⁴, names borrowed from the Greek comedy as *Δημοφῶν* and *Λημνοσελήνη* become on the Latin stage *Demipho* and *Lemniselene*; *τραγικομῶδια* itself is presented as *tragi-comoedia*; and at a later day, on the same analogy, the great *Μιθραδάτης* was known at Rome as *Mithridates*.

(b) where
the second
member is
weakened.

Secondly, let us take the more numerous and important cases where the second member of the compound has suffered. With this weakening of the Latin the Greek has no sympathy. The Greek shews singular facility in the compounding of verbs with prepositions: and these numerous compounds in process of time often ceased to be felt as such, and were used to express some one simple idea which had no apparent connection with the original meaning of the two members; yet the Greek language seems never to have lost its consciousness of the truly composite character of the

¹ I. 295.

² I. 277.

³ I. 296.

⁴ *Ibid.*

word: even though the meaning of the verb might be overpowered by the preposition, yet its form remained intact. Very different was it with the Latin. Here, as is obvious on the slightest glance, weakening is the rule; when the original form is retained, it is the exception. The primary vowel *a* which we have seen elsewhere so rarely affected, is here the greatest sufferer of all, as indeed follows from its occurring in roots more frequently than any other vowel. When followed by a labial or *l* (comp. p. 164), it sometimes does not sink below *u*: thus we find *oc-cup-o* (*CAP*) *con-tubernium* (*TAB*); *in-sul-to* (*SAL*) and *in-sulsus* from *salsus*. But even the labial is commonly unable to stem its downward course: the older forms *de-rupio* and *sur-rupio*¹, gave way to *deripio* and *surrupio*: and hosts of others, such as *prohibeo*, *mancipium*, *dissilio*, &c., will occur to every one. Before final consonants other than labials, the radical vowel sinks as a rule to *i*: before gutturals, as *re-ticeo* (*TAC*), *prodigium* (*AG*); before linguals, as *profiteor* (*FAT*), *Jupiter*, or *Dies-piter*; before nasals, as *recino* (*CAN*) and *inimicus*. Further if the vowel be followed by two consonants as well as preceded by one at least, the vowel regularly sinks to *e*, as in the examples given above (p. 167). In all these cases sufficient strength is supplied to the syllable by the combination of consonants: and therefore the original vowel is suffered to sink to the dull *e*, unless retained at some intermediate stage by especial affinities. Thus we have *peregrinus* from *ager*, *obsecro* from *sacer*; *ascendo* and *aspergo* from *scando* and *spargo*; but *infringo* and *contingo* from *frango* and *tango*, because as Corssen points out², the nasal here is not radical; it is only employed in the formation of the present base from the roots *FRAG* and *TAG*. (See above, p. 93). *Damno* in composition becomes *condemno*, from *annus* we have *biennium*; *castus* passes into *incestus*,

¹ Corssen, i. 814.² i. 317.

tracto into *detrecto*; from base *CAP* we get *auceps*, &c., in the nominative. In some isolated cases, as *imbecillus*, we find *e* without the excuse of the two consonants: others like *aequi-perare* and *per-petior*, may be accounted for by the affinities to be hereafter mentioned. *E* itself is weakened to *i* in numerous compounds, where it had taken the place of original *a* in the root: thus *lego* is *colligo* in composition; from *tenax* we get *pertinax*: but *e* is often retained, on no very clear grounds, except that these two vowels, as the weakest in the language, exchange place more easily. Corssen can give but one instance of *o* being shortened in composition, which is *ipfico* from *in loco*. *U* is never shortened. There are a few seemingly irregular instances of weakening of long vowels in composition, but always to *e* or *i*. Thus *halo* passes into *anhelo*; long *o* is weakened to short *i* in *cognitus* and *agnitus*, and long *u* to short *e* in *de-iero*, *pe-iero*, but retained in *per-iurus*. Lastly *ē* passes into *ī* in two cases—*subtilis* from *tela*, and *delinire* from *lenis*.

It has been already mentioned that these weakenings although very common, are by no means without exceptions. The prevailing tendency never became universal; and this in most cases is to be accounted for by the sense of the composite nature of the words being retained. Sometimes we can see a reason for this, sometimes not. Thus *prohibere* acquired the general idea of preventing, losing the primary sense of holding a material obstacle "in front:" hence comes the weakening in form. But, either because of the stronger form of the preposition, or for some other reason, the primary sense of *post-habere* was felt even when used in cases where no putting behind in space was possible: and hence the retention of the original vowel. Again *Diu-pater* passed into *Jupiter* without preserving a trace in common use of its derivation: but the title *Janus-pater* was felt to be a compound from the use of its first member as a

distinct word; and therefore the *a* never sank to *i*. And the idea of causation, which is obviously represented by compounds with *facere*, as *tepefacere*, &c., prevented the sinking of the vowel, which takes place in *conficere*, &c. In other cases I believe that assimilation has been the cause of many irregularities. This explains why the *a* maintained its place in *per-placet*, but not in *dis-placet*; in *per-facilis*, but not in *dis-facilis*. Another reason, which Corssen has pointed out¹, by which the change has been prevented, is the necessity for distinguishing between distinct compounds. Thus *expando* was not allowed to sink into *expendo*, because of the necessity for keeping it distinct from the combination of *ex* and *pendo*: so also it was necessary to distinguish *contactum* from *contectum*. But this principle explains a very small number of instances.

Lastly, we come to Weakening in Reduplicated forms.

This process (as Corssen observes) is closely connected with that just described: for Reduplication is really a sort of Composition. In the weakening of the syllable produced by Reduplication, the Greek and the Latin are on the whole in accord. Thus in the formation of present bases the vowel found in the new syllable is regularly *i*: we have *gi-gn-o* in Latin, as well as *γί-γν-ομαι* in the Greek; *si-st-o* as well as *ἴ-στ-ημι*. More examples have been given in the lecture especially devoted to the uses of reduplication. So also in the formation of the perfect the vowel regularly used in each language is *e*: *τέ-τυφ-α* and *πέ-ποιθ-α* stand by *ce-cid-i* and *te-tul-i*: though it must be allowed that there is much less uniformity in the Latin than in the Greek here; the Latin employs the radical vowel in the new syllable not infrequently; not indeed the heavy vowel *a*, but *o*, as in *po-posc-i* and *mo-mord-i*, *u* in *pu-pug-i* and *cu-curri*, and the weak *i* is kept in perhaps the only two verbs with

(iii) Weakening in Reduplicated forms:
(a) of the reduplicated syllable,

¹ I. 320.

radical *i* which have retained the reduplicated syllable, *di-dic-i* and *sci-scid-i*. But the strong tendency towards a uniform use of *e* is shewn by the other forms which were not uncommon in classical Latin—*pepugi*, *peposci*, &c. We may infer then that the tendency to regard these new syllables as mere grammatical forms was strong even in Graeco-Italian days: and that while the Greeks after the separation attained to strict uniformity in this matter, the Italians advancing no further, formed their tenses now on one principle, now on another: from which inconsistency we find in our grammars the anomalies of the “irregular verbs.” It is difficult to trace with certainty in Latin the process by which the reduplication was often altogether dropped. Corssen thinks¹ that it began with the compound perfects: that in these by the “Old Latin law of accentuation” the accent fell on the first syllable, e.g. *ré-tetulit*, and thus forced out the *e* of the reduplication-syllable; whence *ré-t-tulit*. (Compare the French “je ne le sais pas,” where the *e* of the *ne* is lost in pronunciation.) Thus the ear grew accustomed to such possible forms as *tulit* and when the “new law of accentuation” came in, and the accent was thrown forward in such words as *tetulisti*, the *e* again slipped out and left *t-tulisti*, *tulisti*; and in analogy with these accomplished facts, the possible *tuli* also became actual².

(b) of the
radical syl-
lable.

The Latin treads its own peculiar path of degradation when it weakens the radical syllable as well; when it allows e.g. *pe-pag-i* (root *PAG*) to sink into *pe-pig-i*. The same fate has befallen numerous verbs with radical *a*—*cado*, *tango*, &c. In other cases, chiefly when two consonants follow, *e* is found instead of *i*, in *fefelli*, and *peperci*, and in other cases

¹ I. 326.

² I shall have occasion in a subsequent lecture to explain Corssen's views respecting accentuation in Latin.

by reason of some affinity, as to the *r* in *peperi* (root *PAR*). Sometimes the radical vowel seems to have been lost altogether as in *fecī*, i.e. *fe-faci*, then *fe-f-c-i*; that the verb was really reduplicated in the first instance is shewn by the Oscan *fefacust* (i.e. *fecerit*) and *fefacid* (i.e. *fecit*), quoted by Corssen from Mommsen's *Unteritalischen Dialekte*. This weakening of the second syllable he thinks analogous to that of the second member in a compound (*pe-pigi*, *im-pingo*), and produced by the same reason, the resting of the accent at one period upon the first syllable. It must be confessed that a good deal of work is thrown by Corssen upon the accent.

LECTURE IX.

VOWEL-CHANGE (continued).

*Vowel-change
modified by
external
causes;*

So far we have seen the results of simple substitution upon the vowel system of Greek and Latin. A stronger vowel has passed into a weaker one in accordance with a regular scale of vowel-strength, differing indeed for the two languages, but constant in each. Before we look at the cases where this substitution has reached its natural limit—loss, let us see what modifying causes may have sometimes stemmed, sometimes altered this downward progress: what influence other sounds, vowel or consonant, may have exerted in particular cases upon a vowel, which when no such influences were at work simply sank lower in the scale.

*hardly at
all in
Greek;*

As I have before said, we shall find no such modification of the Greek vowels. They were too strong to become the mere reflex of a neighbouring consonant. In them was manifested all the vital energy of the language. The nearest approach to such action is that which we have seen when two vowels were thrown together by the loss of a consonant, or by other means. Then we saw that one vowel could affect another, but very rarely did one of the two (strictly speaking) either assimilate or dissimilate the other: it did not

change the other into a new distinct sound more like, or less like to itself: rather the two became blended into one, after a severe contest, in which the stronger gained the day, but generally retained the marks of the conflict. And even so the agent of the change was a vowel and not a consonant.

We may pass on then to the Latin, and see the results of ^{but frequently in Latin.} the weakness of its vowel system, compared with the Greek. We have seen that the scale of vowel-strength in Latin is this—*a*, *o*, *u*, *e*, *i*: that is, a vowel allowed to sink gradually in strength, and not interfered with by other causes, would pass along this scale from *a* to *i*. And this order down to a certain point is always preserved. The vowel *a* is always the original vowel: it is never derived from anything else: it passes into *o* by weakening of articulation, and further down the scale. But neither *o* nor any other vowel ever rises, by assimilation or by any cause whatsoever, to *a*. Similarly *o* sinks to *u*, *e*, *i*: but *u*, *e*, *i* never rise to *o*. These two vowels then retain their dignity in Latin as in Greek; they are never the creation of the consonants. But here the difference in Latin begins. While the difference in strength between *a* and *o* was clearly felt, that between *u*, *e* and *i* was not so: and between *o* and *u* there was a great gulf fixed. Therefore these last three vowels occur often not in their regular order but in dependence upon other sounds, through the principle of Assimilation. The difference in strength between the three vowels was not sufficiently great to make a particular divergence from the scale offensive to the "Sprachgefühl": not only could a vowel which was gradually passing down the scale be stemmed at a particular point, as at *u*, by a labial before or after it; but even a weaker sound such as *e*, the result of old substitution for *a*, can be carried backward up the scale to *u*; as *PEL* to *pul-sus*: the effort required to pronounce *u* was not so much greater than the effort required for *e*, as the effort to put the vocal organs

in the position for *e* with the uncongenial letter *l* immediately following was greater than the effort to sound the closely adjacent sounds *u* and *l*.

*Principle
of Assimilation.*

For the great cause of Assimilation is closeness in the air-tube of the points at which the two sounds—that which affects and that which is affected—are produced. By the air-tube I mean the passage from the lungs to the lips: and the air proceeding along this tube can be acted upon at particular points, thus producing the different vowels. Regarded from this side—priority in time of production—the order of the vowels is that under which they commonly appear—*a, e, i, o, u*; if we sound them as they are sounded in other countries, not according to our insular pronunciation. And thus regarded we shall see that *e* may (more or less exactly) be called a palatal vowel, *i* a dental and *u* a labial. Therefore we shall not be surprised to find that these vowels can have affinities for those consonants which are produced at corresponding points of contact: we shall not be surprised to find that if there be no very marked difference of strength between the labial and dental vowels, the labial vowel should be found in preference in connection with a labial consonant, and the dental vowel with a dental consonant. And this result is just the result to which the facts of the language will lead us. It is quite true that in these cases the Latin law of vowel-strength sometimes seems to be broken; it is not broken in reality but only over-ridden for a time by a stronger law, itself also a manifestation of the universal principle that phonetic change results from the striving for ease of sound: and the Latins in consequence of the weakness of the lower part of their vowel system, found it easier to sound a stronger vowel together with a similar consonant, than a weaker vowel together with a dissimilar consonant¹.

¹ It may perhaps be thought that this natural scale of the vowels—*a, e, i, o, u*—ought to be the scale of strength also for all languages. It would be

With these introductory remarks I pass to my second head of Vowel-Change.

II. ASSIMILATION.

Under this head we may consider together the cases where the process of descent has been stemmed, and where it has been altered by neighbouring sounds. I take first those examples when these results are produced by consonants.

(i) Where the vowel in which the change results is *u*. 1. Vowel assimilation caused by consonants.

If we take first the connecting-vowel, which was commonly *o* in Graeco-Italian and which of all vowels was most likely to sink to its lowest form (see p. 166), we shall observe that in some few verbs in Latin it was retained at the point *u* by the influence of the labial-nasal *m*, as *sumus*, *volumus*: but in other verbs which bear a strong resemblance to these in that oldness of form which at a later period seems a mark of irregularity, we find the *u* already thinned down to *i*, as *ferimus*:—just as in other simple verbs¹. Here therefore the vowel was kept, for some time in an early period of the language, at *u* by the assimilating effect of the *m*. A similar effect—also

so, if every vowel was—as *a* is—merely so much breath. To sound *a* we simply open the mouth and send a strong current of air from the lungs. But all the others depend on the different organs which lie along the air-tube. It is according to the effort with which the requisite mechanism is applied, that a particular vowel is strong or not; and different nations pronounce different vowels strongly, from certain idiosyncracies into which it is probably not very profitable to enquire. But it is surely not very difficult to see that the constrained position of the lips in sounding the *o* demands more effort than the slight curvature of the tongue which alone is required for sounding *e* (English *a*) or *i* (English *e*). Therefore according to our definition *o* is naturally a stronger sound than *e* or *i*.

¹ By simple verbs I mean these which belong to the so-called 3rd conjugation. In the other conjugations *ā*, *ē*, *ī* are part of the verbal base—*amā*, *monē*, *audi*—and make a connecting vowel unnecessary. The concluding vowel in each case is the relic of the Indo-European suffix *-aya*, or *-ya*, altered partly by the corruption of the *y*, partly by the splitting of the *a* sound.

not permanent—was produced by *f* in the days of Plautus, when *sacro-ficus* stopped at *sacruficus*¹, before passing yet lower to *sacrificus*, or *carni-fex* rose to *carnufex*. So also *b* produced *bu-bus*, and *Hecuba*, the older form of which was *Hecoba*². But the consonant which has by far the greatest affinity for *u* is *l*. This affinity moreover was in full operation during the classical period of Roman literature: it differs from those mentioned above which had then almost died out. On the other hand it would seem to have begun later: for we read *cosol* and *consol* on the tombs of three of the Scipios: while the introduction of the new sound is shewn by the wavering spelling *u* or *o* indifferently—on inscriptions of a somewhat later date. Corssen has proved that the new sound was established among educated men at the close of the Republic, but that it never became general among the provincials, from whom the original *o* was handed down to all the Romance dialects; just like the provincial *e* for *i* mentioned already.

The principal reason of this effect of the *l* was undoubtedly, as I have already said, the fact that *u* and *l* are produced very near together in the air-tube. Other causes may have combined. *L* was generally a strong sound in Latin: it is said by Pliny³ to have had a middle sound at the beginning of a word, as *lectus*; to have been strong at the end of a word—*sol*, or a syllable—*silua*, or after a consonant in the same syllable, as *clarus*. (Hence no doubt the frequent loss of such consonant or consonants, as (*c*)*lamentum*, (*st*)*locus*, &c.) He calls it weak only when it follows another *l*, as *ille*. This seems to shew that the sound of the first *l* in such places was so strong that a second one was felt to be required to express it: hence the constant variation in

¹ e.g. *Most.* 243.

² Quint. i. 4. 16; see Corssen, i. 254, where these and many other examples are given.

³ See Corssen, i. 79.

writing, as *Aquilus* and *Aquilius*; also the occurrence of two *l*'s where etymologically there should have been but one, as *querella* and perhaps *relligio* (but the first *l* here may be an assimilated *d*), or one *l* instead of two, as *parulum*, *belua*, *solennis*. But besides being a strong sound, it also had (like *r*) something of the vowel about it. In Sanskrit there occurs a vowel *li*, also a vowel *ri*: and we shall see hereafter that it was this slightly heard vowel in these two consonants which led to the loss of original vowels before them, as in *vinc(u)lum*, and *dext(e)ra*. Hence it cannot be surprising that a vowel before *l* had a natural tendency to turn first to *u*.

The *l* was especially powerful when followed by another consonant, in which case the preceding vowel was nearly always altered to *u*—the vowel which under the circumstances required the least effort to produce. Thus *a* passed into *u*, as *flavus* and *flagro* into *fulvus* and *fulgor*, when through the strong dislike of the Italians for a heavy consonantal beginning, the *l* as the second consonant was thrown further onwards in the word: *e* became *u* very much more commonly, as *pello*, *pulsus*; *sepelio*, *sepultus*, and a host of others; compare too the Latin *mulgeo* with the Greek *ἀμέλω*: *o* almost equally often as *colo*, *cultus*; *stolidus*, but *stultus*; and compare *bulbus* with *βόλβος*, *sulcus* with *ὄλκος*. Indeed the flexibility of the Greek vowels in the same position is best seen by Corssen's examples¹ of words taken from the Greek by the Italians at an early period, and pronounced and written after their rule: thus *πάσσαλος* becomes *pessulus*, *Σικελος* is *Siculus*, *φαινόλης* is *paenula*.

N combined with another consonant has the same effect as *l*, in detaining the preceding vowel at the step *u*. Thus *nuntius*, *Acherun(t)s*, *hunc*, diminutives like *ratiuncula*, contractions like *homullus* (from *homonulus*), are all instances

¹ I. 258.

of a vowel which has fallen from *o*, but no more than one step. In the same way *mn* detain the *u* in *alumnus* and all that class. That the nasals were the cause seems clear because before two consonants a vowel in Latin commonly sank to *e*. The cases are not on the whole very numerous, and it would seem that the tendency was strongest in pre-Augustan times, and then rather ceased, for Ennius wrote *frundes*, and Lucilius *dupundī*. Among the provincials the *o*-sound was probably often retained, and passed on to the Romance language, e. g. *molto*, *mondo*, &c.¹

(ii) *the*
and e.

(ii) Where the vowel in which the change results is *e*.

This result, as will be inferred from the previous account, is produced especially by *r*, the most cognate of the consonants. This is most conspicuous in the cases of neuters ending in *us* (*os*), where between the two vowels *s* passed into *r*, e. g. *genos-is* became *genoris* and then *generis*. In other cases original *i* rises to *e* from the influence of *r*: as *cinis*, *cineris*. Next, Corssen quotes the terminations *ber*, *cer*, and *ter*, the vowel of which in Indo-European was certainly *a*². The uniformity of the vowel before the termination *-ra-* (*-ero*) has been already contrasted (p. 164) with the easier Greek vocalism. Lastly, in the conjugation of verbs *e* is always attracted by *r*, which in Latin seems to have had a peculiar sound; so *dedī-sont* passed into *dedē-runt*³.

I mentioned above that *e* is the favourite vowel of the Latin in closed syllables before more than one consonant, as *vertex* (from *vertic-*) *sceles-tus* from *scelus*, *pedester* for *pedit-ter(o)*-, and numerous others. This combination even caused a further weakening of *u*, as *ferentem*, &c. (contrast *euntem*); the old *u* being retained in legal formulae. The reason of this, it seems to me, lies in the dulness of the vowel: it has the least amount of character of any; and therefore it best suits

¹ Corssen, I. 257--264.

² I. 274.

³ I. 276.

a syllable in which the consonantal element is strong. Prof. Heyse's character of *e* may be assented to without difficulty; with respect to the other vowels his conclusions are so ingenious that one cannot but wish that they were borne out by facts. Of *e* he says that it is the vowel of least "tone:" it expresses less of sensation than any other, and consequently extends its dominion over speech with ever-increasing force, as the exponent of reasonable speech: colourless as water it serves as the element to float consonants: it is the voice of emotionless reasonable speech¹.

(iii) Where the vowel in which the change results is *i*. (iii) *the vowel i.*

It may seem needless to treat of this vowel as the result of assimilation. If *i* be the weakest of the vowels, it must be the point to which all vowels would sink if left to their own course, without any modifying influences. It may be said on the other side that *i* is not invariably the weakest of the Latin vowels: there are cases in which *i* has sunk to *e*, as we have already seen, at the end of a word, or when the final consonant was so little heard that the vowel was really final. But I do not think that in any of these or similar instances *i* has been kept back by assimilating influences from sinking to *e*. The assimilation therefore in this case must be understood to be no more than the result of affinity between *i* and other sounds which generally compelled a vowel to sink as low as it could in the scale—which it might not have done, had no such influence been at work.

The sound which had this effect most was *n*. The thinnest nasal preferred the thinnest vowel. According to Corssen²,

¹ Heyse, *System der Sprachwissenschaft*, p. 79. I owe my knowledge of this brilliant writer to Mr Farrar's *Chapters on Language*. In the chapter from which the above is quoted, he distinguishes the vowels as the natural exponents of different sensations: a distinction which it is to be feared has perished in a far pre-historic stage of language, at least for the other vowels. See *Chapters on Language*, p. 86, note.

² i. 94.

who rejects Priscian's rule that final *n* was strong, medial *n* weak, *n* was strong in the middle of a word, at least where it was an element of either base, or suffix: it can hardly have been strong in a prefix, such as *con*, when it generally vanished. Corssen instances the various spelling of words like *Porsena* or *Porsenna* to prove his theory; just as the strength of medial *l* was inferred from the same reason. If this be so, we can understand why *n*, which is a fine clear sound if pronounced with distinctness, would naturally draw to it the finest and most distinct of the vowels. But undoubtedly the nearness of the points at which the two sounds were produced has also much to do with the fact. Both are dental, and we shall see that *i* has an affinity for other dentals as well. The *i* occurs before *n* in *terminus* (Greek -μενο-), in *diutinus*, where the suffix is the Indo-European -tana; regularly before the suffix -no, as in *dominus*, *pagina*, &c.: it supplants *o* in oblique cases from bases in *on*, as *cardo(n)*, *cardin-is*: and occurs in a few radical syllables, as in *Minerva* for older *Menerva*, and *vindico* (compare *venia*)¹. This tendency to substitute *i* for *e*, as we have already seen, was the mark of cultivated, as opposed to rustic, Italian.

I was also attracted to the dental spirants. The best proof lies in the transliteration of *καμάζω* by *comissor* (the double *s* required to represent *ζ* may have had a peculiar force here) or *κάναστρον* by *canistrum*; here again we have two dentals at work. An important example is furnished by the termination of comparatives, -*ius* for older -*ios*. Here the *i* was sometimes absorbed by the *u*, as in *minus*: but more commonly the *u* itself sank to *i*, which then coalesced with the preceding *i*, and should therefore have produced a long final syllable in *magis*, *satis*, &c.; but the weak pronunciation of the last syllable in Latin seems in every case to have let the long vowel pass away². Lastly, *i* occurs in connection with *t* and *d*.

¹ Corssen, I. 283—285.² I. 288.

The instances where this assimilating power is best seen are the participles or participial formations from the second conjugation, as *meritus* from *mere-* (but *merētod* occurs in the well-known epitaph of the son of Barbatus), *tacitus* from *tacē*, &c. The same change is seen sometimes though rarely in the first conjugation, as *domitum*, *cubitum*, &c. In these cases accent no doubt had much to do with the weakening: the unaccented middle syllable could not maintain its length, and the shortened vowel easily sank to *i*. The fact that *i* is always found before the suffixes *-tion*, *-tia*, *-tāt*, *-tudin*, *-do*, &c., should perhaps not be pressed as an instance of assimilation, for we have already seen (p. 169) that in all such formations the final vowel of the base has a natural tendency to sink to *i* as the easiest vowel, e. g. in *belli-cus*, *rubi-cundus*, &c.

In conclusion then, the three weak vowels have their own peculiar affinities, *u* for labials and *l*; *e* for *r* and closed syllables; *i* for dentals: these affinities in every case depending on the nearness of the point of contact of the two sounds.

Next we have to consider the cases where one vowel has assimilated another. This phenomenon is of comparatively rare occurrence. We have often had occasion to remark the weakness of the Latin vowel-system: consequently we shall not expect the vowels to exercise so strong an influence over another vowel as the consonants did. Still I can give you a few examples derived as before almost entirely from Corssen.

2. Vowel assimilation caused by vowels.

(i) When two vowels come into actual contact, they have a tendency to approximate to each other.

Thus when *y* was resolved into *i* in (*e*)*syam*, the subjunctive of *ES*, the difference in point of distance between the two vowels *i* and *a* made the form *siam* unpleasant: hence through the influence of the *i*, the *a* drew one step nearer to it, and became *e*—*siem*, a form which constantly occurs in Plautus (e. g. *Capt.* 736). That *a* really occurred in this form

in Latin, as well as in Graeco-Italian or Indo-European, is shewn by those cases where the *y* was entirely dropped, not resolved into *i*, when the *a* remained intact; as in *reg(y)am*. Similarly Corssen holds¹ that the difficulty of the combination *ia* produced the numerous class of secondary nouns in *-ies*, e. g. *durities* by the side of *duritia*.

Another effect of this assimilating influence of one vowel on another is to check in some cases the same power when exercised by a consonant. We have seen already that *o* followed by *l* almost always sinks to *u*. But this change does not take place when *i* or *e* precede *o*: *u* is more distant than *o* from either of these vowels; and they therefore by their assimilating power retain the original *o* in *uiola*, *gladiolus*, &c.; in *aureolus*, *luteolus*, &c.²

(ii) When two vowels are separated from each other by a consonant, they tend to become identical.

Thus *e* assimilates a preceding vowel in *bene*, originally *bono*, which by regular weakening became *bone*; then the feeling of the coming *e* in the last syllable modified the *o* in the first. Similarly *illec-cbrae* owes the *e* of its second syllable (root *LIC*) to that of the third.

O has changed *u* and *e* in a previous syllable, in *soboles* (*sub*) and *socordia* (*se*). So also *u* has operated in the suffix of *tug-urium* on the vowel of *TEG*. I think it possible that the same influence may have produced *diurnus* (*dies*), and *arbustum* (*arbos*). But more numerous are the cases where *i* has affected a preceding vowel. Thus *ne-hilum* becomes *nihil*: the old *i* in *mihi* is preserved by the final *i*, though in *mei*, *meus*, &c. it has become *e*. *SUL* in *consulo* passes into *sil* in *consilium*, *facul* becomes *facilis*; and *CAL*, which is found in *καλύπτω* and *calim* (the old form of *clam* according to Festus), becomes *occulo*, but *super-cil-ium*. A forward action is clearly to be seen, as I think, in *difficilis* and

¹ I. 803.² *Ib.*

displicet (see p. 173): *i* is not found in *perfacilis* and *perplacet*, where no *i* precedes.

It is quite clear from these examples that by far the greatest part in this kind of assimilation is played by the vowel *i*—the weakest of all: a fact which may at first sight surprise us. Corssen¹ gives the analogy of *ä, ö, ü* in German, which are commonly produced by an *i* in the following syllable: e.g. *mann, männlich*: and he concludes that *i*, thin though it be, requires for its pronunciation a considerable tension of the organs of speech, differing herein much from *e*. This explanation seems very unsatisfactory. It is this effort required in pronunciation, and nothing else, which is the mark of a *strong* vowel: and yet nothing can be plainer than the fact that *i* is weaker than *a, o, or u*. And certainly no such tension is *absolutely required* to sound the *i*, though greater power may accidentally be applied to it, as it may also to *e*. The truth is that the real cause of the change is not the influence of the *i*: the real cause is the natural tendency of every vowel to grow weaker in Latin: the *i* only lends a helping hand, determining how far the change should operate—in this case to the utmost possible limit, sometimes giving an additional impulse to the vowel affected, which might otherwise have resisted the primary tendency, as *difficilis*, mentioned above. In a word, it is only a modifying, at most an auxiliary cause of the change: and this is in accordance with the view of Assimilation which I have throughout this section attempted to set before you.

III. DISSIMILATION.

This principle has of course a less wide field than that which we have just considered. The same sound is less

¹ I. 307.

likely to occur twice in inconvenient proximity, than different sounds. Like Assimilation it is sometimes an auxiliary cause of new change, sometimes it prevents the regular process of change. Its operation is restricted to some of the places in which either by regular substitution, or by the loss of a letter, or by the resolution of a semi-vowel into a vowel, or by the addition of suffixes to roots or bases, or by two of these causes combined, the *same* vowel-sound occurred twice.

Less frequent in its operation: acts principally as a bar to further change.

It acts, I say, only in some of these places, because the most obvious method was to let the two vowels so meeting coalesce into one long vowel: and this often took place. For example, when *sequ-ontur* was tending to become *sequ-untur* by the regular substitution of *u* for *o*, since the double *u* would have been difficult to pronounce, the two often coalesced, and (*q* never being written after the loss of its peculiar attendant *u*) the result was *sec-untur*, when the tendency to weaken *o* to *u* in these forms had become too strong and too universal to be resisted. But the natural dislike to such a transformation is seen in the fact that the old spelling *sequontur* was still retained even in the Augustan age, side by side with the new. Similarly we find in indifferent use *equos* and *ecus*, *aequom* and *aecum*, *quom* and *cum*, &c. In all these cases this retention of the *o*, this bar to the regular change, is due to the principle of Dissimilation. In some instances no doubt this principle was aided by another cause. If the weakening of *o* to *u* had taken place, and the two vowels had then coalesced, there would often have resulted much confusion. Thus *uoltus* would have been allowed to sink into *ultus*; *uolnus* into *ulnus*, &c. Here therefore there was all the more need for letting the natural tendency to Dissimilation act fully.

Corssen gives as examples of this bar beside the well-known *volt*, *volcanus*, &c., the cases where original *o* is retained in the suffix *-olus*, which generally sank to *-ulus*;

as *friuolus*, *Scaeuola*, &c.¹ The combination *uu* seems to have only been tolerated when another vowel followed, in which case the second *u* was of course really the semi-vowel *v*, and there was no real meeting of identical sounds, e.g. in *illuuiēs*.

The meeting of *i* with *i* occurred more frequently: e.g. from the resolution of *ei* into *i*, as *petiei*, *petii*; *uieis*², *uiis*. Here the combination was allowed because contraction would in such cases have produced immense confusion: but where possible it was permitted. Thus when *De-is* became *Diis* by weakening, it was at once shortened into *Dis*; and genitives like *Vergilii* were also contracted, except when a poet found the older form more convenient. Frequently the difficulty was avoided by dropping one of the vowels, as *obicio*, *adicio*, &c.³

But when the difficult combination arose from the meeting of the end of a nominal base with a case-suffix, or even a new formative suffix, then dissimilation stepped in and prevented the occurrence of the sound. One of the two vowels became *e*; thus *ali-inus* became *alienus*. Similarly when *e* would naturally have sunk to *i* in the last syllable of the root, it was retained, as in *abietis*, not *abiitis*, and *Anienis* from *Anio(n)*, though from *cardo(n)*, as we saw (p. 184), we have *cardinis*. So also in the formation of a secondary noun we see the same influence. Although before *-tat*, bases in *o* regularly allow the *o* to sink into *i* (as from *uero-*, *ueritat-*), yet if *i* precedes, the *o* does not sink below *e*, as in *pie-tat*, *uarie-tat*, and many others⁴. The root *AG* is frequently used to form a sort of causal verb; in which case

¹ I. 308.

² See p. 152.

³ At a somewhat late time if we may judge from poetry. Thus Virgil (*Aen.* vi. 420) has *obicit offam* (= *obyicit*), but Lucan (ix. 188) *Pompeiumque deis obicit*. Yet in Virgil we find *reice* scanned as a dissyllable, which could not be if each *i* was heard.

⁴ Corssen, i. §10.

the vowel naturally sinks to *i*, or is altogether lost, e.g. *leuigare*, *pur(i)gare*, *obiurigare*¹ and *iur(i)gium*. But when *i* precedes, this vowel was kept at *e*, as *uariigare*. Lastly, the older form of the genetives *ipsius*, *illius*, &c. is to be accounted for on this principle. We have seen the *u* occurring in forms like *corporus* (p. 165), a weakening of Graeco-Italian -*os*. But this *u* regularly sank to *i*, and consequently we might have expected to find *ipsiis* or *ipsis*: the change was prevented by the preceding *i*².

Finally, the combination *ee* is avoided in *eeis* by the forms *eis* or *ieis*, both in the nom. and the dat. or abl. plural. And the only reason apparently why we find the one relic of the older form of the present participle, so often mentioned, *euntem*, is that if the usual weakening took place in it, we should have a double *e* sound.

These, with a few others of the same class, are the main examples of Dissimilation—a principle which (as will have been observed) acts almost exclusively in hindering weakening which, but for it, would on the analogy of similar forms have certainly taken place.

¹ In Plautus, *Trin.* 68, ed. Brix, though Fleckeisen reads *obiurgito*, not so well, I think.

² Corssen, i. 312.

LECTURE X.

VOWEL-CHANGE (*continued*).

IV. Loss.

WE have now to return for a short time to the Greek. ^{1. Loss of Greek vowels.} As the last two forms of change had little effect on the vigorous vowel-system of the Greek, it is only natural that it should have suffered still less from loss. Indeed the only class of words in which a vowel is dropped with any regularity is in those verbs which formed their protracted-stem by reduplication. In these the radical vowel commonly fell out. Many of the cases have been already mentioned; as γί-γ(ε)ν-ομαι, μί-μ(ε)νω, πί-π(ε)τ-ω πέ-φ(ε)ν-ω, &c. This loss is one ^{Probably produced by greater freedom of the accent at an earlier period.} reason for believing that the accent in Greek was not originally regulated by the length of the last syllable, but was free to fall as was natural on whatever syllable more especially modified the original idea—here therefore on the first: for had it been on the radical syllable always, as would be necessary under the later law—e.g. μι-μένω,—it is almost inconceivable that the accented vowel should have been suffered to drop. It is quite true that this view is not free from objection, though less so, as I think, than any other. For example it may be asked how it happened that if the accent

was always on the reduplicated syllable, the vowel was yet regularly weakened to *ε*? We may answer that it is less remarkable that an accentuated vowel should be weakened than that it should be lost: but this answer allows the difficulty. It is hardly conceivable that the accent should have been originally on the radical syllable and remained there after the reduplication sufficiently long to allow the new syllable to be weakened regularly, and then—after the importance of that syllable had so far faded out of the consciousness of those who used it—should have been thrown back on to it, and so the radical vowel have been lost. It would destroy the very principle of the theory, that there was a natural connection between accent and sense, if we should thus suppose that a syllable could be accented after it had lost its meaning, in times when accent had not yet become bound by quantity. Some other explanation must be found if this theory is to be maintained. May the change of the vowel in the reduplicated (and accented) syllable have been due to dissimilation as well as to weakening? We have already seen in words like *γέγονα* how the Greeks avoided the occurrence of the same vowel in consecutive syllables. As the vowel in the radical syllable was nearly always *ε* in those verbs which formed their protracted-stem in this manner, the choice of *ε* for the vowel of the reduplicated syllable would thus be explained: it gives a variation in sound, but the smallest possible.

The theory of the original freedom of the accent is maintained by Corssen in the third division of his work on the Latin language—that which deals with accentuation—the *Betonung*. It is true that this part is open to many objections: it contains more of hypothesis and less of facts than the *Aussprache* and *Vokalismus*: and difficulties, such as that mentioned above, are not met. Still on the whole his theory seems to me more satisfactory than any other. It is

confirmed to some extent by the Sanskrit verbs which are analogous to those which we are considering; for at least in the singular they are accented on the reduplicated syllable. The augment too is accented in Sanskrit; as on this theory it could not fail to be, if the augment was originally (as seems highly probable whatever may have been its meaning) an addition from without, and alien to the verb, and so differing in kind from reduplication, which added no new element to the root. So this principle, if true, would explain other losses in Greek which occur in augmented tenses, but not so regularly as in the present: I mean cases like ἔ-σ(ε)χ-ον¹ from the root ΣΕΧ or ΣΧΕ, and ἐσπόμην for ἐ-σεπ-ομην; where the rough breathing was probably a mistake, on the analogy of the present ἐπομαι and the imperfect εἰπόμην; in this last the breathing was misplaced, the process being ἐ-σεπ-όμην, ἐεπόμην, ἐεπόμην, εἰπόμην.

Lastly we find a vowel sometimes lost in formative suffixes before a case suffix, e.g. πατ(ε)ρ-ός. The fact that the ε does not fall out in the accusative where it is accented, whilst the genitive and dative have the accent on the case-suffix, seems to point again to accent as the cause of the loss. But why the accent was on the suffix in the genitive and dative alone, is not so easily answered. Was the accent originally on *all* case suffixes—as modifying the radical idea? and was it then commonly thrown back from the natural tendency in all languages—less felt in Greek however than in most—to shorten a final syllable? But, I confess myself entirely unable to explain why particular cases like πατρός still kept it unchanged.

Examples of loss in Latin are much more numerous—^{2. Loss of Latin vowels.} another proof of the weakness of the Latin vowel system compared with the Greek. They are so various that it is difficult to bring them under general heads. Perhaps the

¹ Schleicher, *Comp.* 57.

best plan will be to give a list of the most important, and see afterwards what general conclusions may be drawn from them. For the examples I shall again be indebted to Corssen.

Loss of a; First even the strong vowel *a* is lost not unfrequently in the perfects of the first conjugation¹—e.g. *cub(a)ui, nec(a)ui, &c.* There can be no doubt that these perfects were formed like others of the same class from the base, *cubā, necā, &c.*, by the addition of *ui* the remnant of *fui*²: and it is not probable that this termination was joined directly to the simple root, in which case there would have been no loss of *a*. In all likelihood, as Corssen suggests, the weakened supine *cubitum*, where the reason for the *i* lies in the dental *t*, led the way to *cubiui* and then to *cubui*. In nouns this loss is rare: but *uirgo* must be a shorter form of *uirāgo*: in *clarus* and *clamor* the root was doubtless *CAL*: and Corssen points to *palma* and *cupressus*, which represent the Greek *παλάμη* and *κυπάρισσος*.

Loss of o; The loss of *o* (I take the vowels according to their strength) is even more rare. We find *vict(o)rix, alt(o)rix, pist(o)rina, &c.*, where the new suffix has forced out the vowel of the old. Similarly *neptis* comes from *nepōtis*: Corssen suggests through a middle form *nepitis* on the analogy of *homō(n), hominis*.

Loss of u; The next vowel—*u*—is only lost before *l*: and I have before said that *l* has something of the vowel in itself. Thus *uinculum*, as is well known, occurs at least as often as the older *uinculum* even in the Augustan age. Others like *poculum, uehiculum* (Plaut. *Pers.* 775, 782) do not seem to occur in the literary dialect later than the Plautine age, till *poculum* is found again in Prudentius³. These “syncopated forms” when they occur in Latin verse-authors are generally explained as “poetical license”—a radically false theory, if

¹ Corss. II. 2.

² See Schleicher, *Comp.* 828.

³ Corssen, II. 6.

it means that Virgil and Horace used forms which ordinary men of the time could not have used. The truth is the very opposite of this statement: a pronunciation of *uinculum* and similar words in which the *u* was either barely heard, or not heard at all, was the universal pronunciation of the day: it was one of the regular weakenings of the popular use, which can be distinctly traced upon inscriptions through many centuries, and always on the increase: which was also prevalent among the different Italian dialects. Educated men of Virgil's day laboured to restore the *u*; and there can be no doubt that one effect of the Augustan literature was to stem to some extent the general corruption of the language as shown in this and numerous other ways. Only these writers did not entirely debar themselves from the forms in daily use. Therefore their use of these vulgar forms was an infringement of their rule as poets, not such an infringement of some stricter non-poetical standard as is implied by the term "poetic license." The *u* also fell out almost regularly in the secondary suffix *-ulo*, when preceded by *n*, or *r*, which then assimilated themselves to the following *l*, and so produced the terminations, *-ello*, *-illo*, *-ollo*, *-ullo*; e.g. *ocellus* (for *ocululus*), *stella* (for *ster-ula*), *homullus* (for *homonulus*), *corolla* (for *coron-ula*), *stilla* for *stir-ula*: sometimes *-ulo* was added to a word in which it already occurred, with a similar result; as *pupillus* for *pupul-ulus* (that is *pupulo* + *ulo*), *oscillum* from *osculum*, &c.; see the long lists given by Corssen¹.

Just as *u* fell out before *l*, so *e* was lost before *r*; especially in the suffixes *-ero*, *-bero*, &c. Thus we have *lib(e)ri*, *cap(e)ri*, *inf(e)ra*; ~~lat~~*f-b(e)ra* and numerous others. Similarly the suffix *-tero* is weakened to *-tro* and then often to *-tri* as in *equestri-s*, &c.: so also *ac-ero* becomes *ac-ri-s*. And the same weakening which we have seen in *πατ(ε)ρός* is found in *pat(e)ris*, also in *ag(e)ri*, *pig(e)ri*, &c. These are

e /

¹ II. 10—14.

common and well known. Rather less obvious is the loss of *e* in *salictum*; compare *coryletum*, *quercetum*, &c. This vowel is also lost in perfects, like *ā* above: as *deb(e)ui*¹.

Loss of i; But the loss of all these vowels is small compared with that of *i*, the thinnest of all the vowels and most likely to die out; both when it was radical, and when it was the substitute for a stronger vowel. From the long list of its omissions², it seems capable of falling out of almost any place. Thus it disappears before *c* in *calx* (*calic-*); before *g* in *pur(i)gare*, *iur(i)gium* (see p. 190); before *d* in *cal(i)dus* (the true form of Augustus' day on the authority of the Emperor himself³), *ual(i)de*, *u(ui)dus*, *gau(i)deo* (but *gavisus*); before *t* incessantly, as *miser(i)tus*, often in Lucretius in words which the next generation of writers did not allow to be contracted, as *pos(i)ta* (i. 1059), (though the compound *re-pos(i)tus* is a favourite both of Virgil and Horace, and demands the weakening by its length); in *al(i)tus*, *quaes(i)tor*, *audac(i)ter*, &c.; in the old verbs *fer(i)t*, *est* (i.e. *edit*), *uol(i)t*; (that is to say, if these forms did really employ the connecting vowel analogously to the other persons—*ferimus*, &c.); before *m* and *n* at the beginning of numerous suffixes, as *summus* for *supimus*, *bruma* for *brevima*, *teg(i)men*, *sig(i)num* (whence *signulum* or *sigillum*), *alum(i)nus*, &c.—for the Graeco-Italian *e* in these formations probably passed through *i* before it was dropped, on the analogy of *terminus*, &c.; before *s* in comparative suffixes, if Corssen be right in his very ingenious suggestions that, on the analogy of *magis*, *satis* (i.e. *magius*, *satius*, see p. 184), so also *mox* is a neuter comparative from *mouoc-ius* (root *mov*), whence *mouoc-is* and *mo(u)oc-s*, the *i* being dropped before the *s*; also that *uix* = *ui-c-ius*, a comparative of *ui-co*, an adjective formed from *uis*⁴;

¹ Corssen, II. 20.

² *Id.* 21—42.

³ Quint. I. 6, 19. The Emperor may at least be evidence to a form, even if he, like Sigismund, could not create it.

⁴ See *Krit. Beiträge*, p. 62.

as also the forms *als*, *ex*, *uls*, *su(b)s*, &c., where the *s* is difficult to account for, and this (conjectural) explanation seems to me more probable than any other. It is certainly confirmed by the superlative forms in *-sto* (the Greek *-ιστο*): these are probably only the comparatives intensified by the addition of the pronominal base *-to*; then the *i* is traceable in *pra-is-to* or *praesto* "near," as "most before" you; it is lost in *iuxta* for *iug-is-ta* "most joining on" and *ec(i)sta*. The *i* is also lost before *s* as before *t* in verbal forms like *es*, *fers*, &c. Much more numerous and important are the cases where *i* is lost in verbal formations before *s*, when another *s* precedes, which after the loss of course coalesces with the other. Such forms are *dixti* for *dic-si-sti*; which occurs very frequently in the comedians, but not again in literature till the Silver age. Similarly the subjunctive perfects *f.ixim*, for *fefaci-sim*¹, *ausim* for *ausi-sim*, the futura exacta *facso* for *fefaci-so*, *occepso* for *ob-cecapi-so*, the pluperfects *ex-stinxem* for *extinxi-sem*, *uixem* for *uixi-sem*, and the infinitives *dixe*, *traxe*—all shew the same loss. Schleicher indeed objects to these formations on the ground that the second *s* between two vowels must have become *r* and the *i* before it changed to *e*, as actually did take place in *fecerim*, which certainly followed the common Latin rule. Therefore he assumes (*Comp.* p. 831) an older and a younger formation; and that in the older the suffix was added directly to the root, as *fac-sim*. This I think is improbable from the very periphrastic character of these tenses: compare the passive *factus sim*, where the first part is recognised as a complete

¹ Corssen assumes to account for these forms an indicative perfect *fazi*, i. e. *fac+si*, a later form and distinct from *feci* whence *fecerim* (= *feci-sim*). Such perfects no doubt often occurred: but here I prefer to derive both forms from a reduplicated perfect, which occurs in the Oscan, *fefaci*. This can be weakened in two ways, one as in the text, the other by dropping the *a*, through the accent being on the reduplicated syllable—*fef(a)ci*, *fe(f)ci*, *feci*.

word, not a mere root or even a base: and I think that the weak *i* coming in the *third* syllable after a strong explosive sound would scarcely be heard; and so the necessity for changing *s* to *r* would not be felt: afterwards when *fe-faci* had sunk to *feci* the *i* would be more distinctly heard and affect the following *s* more. The history of these forms is the same as that of *uinclum*, &c., mentioned above: they are found constantly in the comic writers who represent the pronunciation of ordinary life, and they were doubtless heard in ordinary talk in the Augustan age, and are therefore sometimes but very rarely used by Horace and Virgil. The other conjugations, the 1st, 2nd and 4th, could form their *futurum exactum* and *subjunctive perfect* in the same way from the earliest times down to the days of Ennius and Plautus, but not much later. Thus in Plautus we have *amasso* (i.e. *amaui-so*, which regularly became *amauero*), *servasso*, *prohibessis* (i.e. *prohibeui-sis* or *prohibueris*). Here it would seem that the loss of the *u* as well as the *i* led to a compensatory doubling of the *s*.

I is especially lost in compounds.

The cases in which the vowels have fallen out in composition are sufficiently numerous and peculiar to deserve a short separate notice¹. The stronger vowels indeed did not fall out under these circumstances, at least without first sinking to a lower sound: *co-ago* doubtless first became *coigo* on the analogy of *red-igo*, &c. and so passed to *cogo*. And most of the instances in which *o* seems to have fallen out, appear to me rather cases of contraction, e.g. *quorsum* from *quo-uorsum*, where we have a sliding together of the double *uo*, than an elision of either: this is true also of *prosa* for *pro-uorsa*, and Corssen's assumed *mouox*; of *co(i)uncti* and *ho(i)ornus* where the lost letter was *y*; in all these cases the vowels which met were the cognate *o* and *u* which easily

¹ For a fuller list of examples, see Corssen, II. 42—51.

united. The loss of *u* is singularly rare ; it is apparently confined to the last syllable of *manu* in compounds like *man(u)suetus*, *man(u)datus*, &c.: the length of these words rendered the loss of some part inevitable, and therefore the unaccented vowel was naturally the first to go. The loss of *e* and *i* is common enough. Thus *e* is lost in *ol(e)facio*, *nuncupo*, i.e. *nomen-cupo*, *posse* for *pot(e)se*: in numerals often with a consonant, as *quin(que)decim*, *sept(em)ussis*, &c. Its loss in the reduplicated perfects is well known, e.g. in *rec(e)cidi*, *ret(e)tuli*. In all these cases the first part of the compound has suffered: the loss has fallen on the second member in *prae(he)ndo*, *co-u(e)ntio* (which finally sank to *contio*, like *noui-uentius* to *nuntius*), in *bi-(ge)nae*, *mali-g(e)nus* and numerous others. The loss of *i* is commoner still ; e.g. *au(i)-sper*, *nau(i)fragus*, *un(i)-decim*, *sinciput* for *semi-caput*, *officina* for *opi-ficina*, *pau(ci)-per*, *sti(pi)-pendium* and others ; in the second part of the compounds, as *su-r(i)go*, *co-(i)mo*, *iur(i)gium*, *prae-(i)tor*, *indu-(i)tiae*, *iubeo* for *ius-hibeo*, &c.

What is the immediate cause of this vowel-loss? We know that the general cause is the general principle of all phonetic change. But why did these particular syllables suffer to such an extent, while others in the same word get off scot free? It is difficult not to reply (as Corssen does) that the cause must be the Accent. The syllable which lost the vowel must have been the unaccented syllable. Then how far is this a priori decision confirmed by the facts of the Latin language? In order to clear up this point Corssen has instituted an elaborate inquiry into the laws of the Latin accent, which occupies pages 201—400 of the second volume of his treatise on the history of the language. I have already alluded to this part of his work at the beginning of this lecture ; where I said that these results did not seem to me to be as certain as those of the earlier portions of his book. Since however they are at least probable, and if true

*Are these
lost vowels
those of the
unaccented
syllables?*

have an important bearing on this part of our subject, I will give them here very briefly.

Corssen believes that there was an older and a younger law of accentuation in Italy, as well as in Greece. For the latter law he has the good authority of Priscian and Servius. The former rests on a large number of particular forms in both languages, which will not fit in with the law in use at the flourishing period of their respective literatures: I will describe the younger law first, as being certain; and then state the main points in which Corssen's assumed earlier law differs from it.

*Common
law of ac-
centuation.*

By the rule then of the Roman literary period,

1. *Monosyllables*

(vowel naturally long) are circumflexed: *rês, fôn's, sôl, fiês.*

..... short ... acute : *mél, cór, fáx, nóx.*

2. *Dissyllables*

(last vowel long) acute: *Rómae, sóllers.*

..... short, first short¹, acute: *árma, déus.*

..... long, circumfl.: *Rôma, dônum.*

3. *Trisyllables, &c.*

(penult. short) acute: *áscia, póstulas.*

..... long, by position, acute: *puélla, tegéntes.*

..... nat. and last long, acute: *pudícae, audísses.*

..... short, circ.: *lectíca, civílis.*

The circumflex or "broken high tone," as Corssen calls it, was not the same tone throughout: *prima erecta rursus in grauem flectitur*, as Servius defines it. And this sinking of the tone is doubtless the reason why it is never found separated from the end of the word by more than one short

¹ That is *naturally* short, and lengthened (for prosody) only by position. Natural length is either radical as in *stâre*; or the result of vowel-intensification, as *dâcit*, or of contraction, as *amâs*. Mere length by position, in words like *nox*, *arma*, &c. must be distinguished from this.

syllable. Its natural place therefore would seem to be at the very end. Yet so little was the Latin inclined to accentuate the last syllable, that the circumflex is never found upon it in dissyllables, except when the original last syllable has been wholly or partially lost, as in *illic(e)*, *credōn(e)*, and the similar *nostrā(ti)s*, *audī(ui)t*.

Loss therefore may be expected in unaccentuated syllables: that is, on all *original* final syllables (which as we shall presently see did suffer most severely); in the syllable immediately *before* the accented syllable (and we have already seen the loss of the vowel in many such; in *c(a)larus*, *c(a)lamor*, *text(o)rina*, *pist(o)rina*, *discip(u)lina*, *lib(e)rare*, *fab(e)rica*, *pat(e)ronus*, *cer(e)ritus*, *cal(i)care*, *pur(i)gare*, *teg(i)mentum*, or at least in the simpler forms from which these are derived); and in the penultima when *following* the accent (as we saw in *pal(a)ma*, *uinc(u)lum*, *peric(u)lum*, *lib(e)ri*, *ded(e)rot*, *no(ue)ram*, *quaes(i)tor*, *uol(i)tis*, &c.). In longer words, generally either derivatives or compounds, there seems to have been a middle tone; in compounds on that part which lost its original accent, i.e. the first, e.g. *uērsi-pēllis*, *circum-sisto*, because the significance of the first member did not allow it to sink to a grave accent: but in derivatives it is certainly the most important part which suffers, as *īra-cūndus*, *lōngi-tūdo*. Some excessively long compounds might even have two middle tones, as *quīna-uicēnāria*, *uērbī-uēlītātio*.

The main result given by these facts is this: the accent was dependent on the quantity of the penultima: it was even fixed to its place by the length or shortness of the penultima. Thus the accentuation of the Latin was far more stiff than that of the Greek. It is true that in Greek (at least in accordance with the rule observed in the age of literary activity) the accent could not stand farther back than the antepenultima. But within that limit it was free to range.

Accent depends on the quantity of the penultima.

As Corssen admirably puts it: "the quantity limits the accent as to where it shall not stand; not as to where it shall stand." It could and often did stand on the last syllable. In Latin it could not: and without doubt the monotonous weakening of this last syllable is closely connected with this comparative stiffness of the Latin accentuation.

*Reaction of
accent upon
quantity.*

But though the quantity thus reigned over the accent in Latin, yet it was not unaffected by it in its turn. The accent could shorten syllables and even cause their entire loss. It could shorten grave (i.e. unaccented) vowels, whether final or not: e.g. *pútō*, *agnītus*, *mōlēstus*, *ōfella*. It could abolish the final syllable, as in *dīc(e)*, *āger(os)*, *fācul(is)*, and many others, which will presently appear in their order¹. Thus though "the quantity could bind and 'break' the accent" (i.e. in the circumflex) "the accent limited and shortened the quantity. It was a conflict of inherent powers within the word²." But while the influence of the accent was but sporadic—acting in a few words like those above mentioned—the influence of the quantity was regular. Therefore in the prime of Latin literature the quantity ruled the accent in the main. But the inevitable tendency of the accent to win the day at last, was only checked, in no way beaten back, by the Augustan rules. How supreme it had become by the beginning of the fifth century after Christ, is to be seen by a glance at the inscriptions of that time. We find, for example, these lines at the beginning of a pathetic epitaph of that date: it marked the grave of a little girl, called *Felicity*.

Quod dulcis nati, quod cara pignora praestant,
Continet hic tumulus, membra qui parva retentat.
Dolorem sine fine dedit Felicitas isto,
Clauditur infelix falso cognomine dicta³, &c.

The first three lines all contain "false quantities:" the last happens to be correct by the Virgilian standard; and at

¹ See Corssen's lists, II. 252.

² *Ib.* II. 253.

³ *Ib.* II. 396.

first sight we set down the whole epitaph as full of barbarous errors. But this is wrong: the epitaph is right enough in the main if judged by the principle on which it was written. The old Hexameter-form is retained: but the beat of the first syllable in each foot, which is given by a long syllable in the old hexameter, can be given here by accent as well as by quantity. Six such beats are required, and nothing more: the syllables *in thesi* are unimportant; if short, when by the old rule they ought to be long (as *carā*), they can be left short; if long where they should have been short (as *felicitās*), they can if unaccented be shortened. That this is the general rule, in spite of exceptions (like *membrā*, above) will, I think, be clear to any one who looks at many of these epitaphs of the later period.

But in classical times, as we have seen, accent was in complete dependence on the quantity of the penultima: sometimes affecting other syllables, but not touching this one. How then are we to account for occasional weakenings like *crep-(ā)ui*, &c.? Here accent and quantity ought to have agreed to preserve the *ā*; and yet the strongest of all the vowels is absolutely lost.

To explain this and many other such difficulties Ćorsen assumes an older law of accentuation, differing from that in common use, in two main points.

1. *The acute was not bound by the length of the penultima.* This will account for cases where a penultimate vowel, long by nature or position, on which by the later rule the accent must have fallen, has been either absolutely lost, as *crép(a)ui*, *vīct(ō)rix*, *sū(buo)rsum*, *dédrot* (for *dēderunt*), *dīx(is)ti*, &c., or shortened, as *fīdēi* (from *fīdēs*), *illūs*, *hómīnis*, *plātēa*, *dócēo*, *dédīmus*, in all of which the penultima was once undoubtedly long. The same applies to compounds, like *cógnītus*, *péiēro*, &c.; and to the manifold cases where the quality of the vowel is weakened though the original quantity is

Cases which contradict the common law, and can only be explained by an older different one.

retained, as in *ánhēlo*, *ínquiro*, *áccūso*; or in *cóndemno*, *ínermis*, where the vowel is long by position. All these cases can be explained by supposing the accent to have fallen originally on the antepenultima, despite the length of the penultima—hardly in any other way.

2. *The accent might fall even on the fourth syllable from the end.* This possibility will account for cases where the antepenultima has fallen out, though by the usual law it ought to have been the accent: e. g. in *iúr(i)gium*, *gáu(i)deo*, *puér(i)tia*, *póp(u)licus*, *súr(r)ruit*, *dé(hi)beo*, *rét(e)tulit*, and countless others¹. Another effect was the loss of the final vowel or syllable, as *áñimal(e)*, *frúgifer(os)*, *ópiſex* (i. e. *ópiſic(i)s*). Sometimes we see side by side the results of this method, and those of the later rule, long after that one had become general: e. g. *ánimae* besides *animái* from *animáis*, *déderimus* by *dederimus*: so also in trisyllables *dédērunt* by *dedērunt*. Such double forms shew the length of the contest: in which the later method was doubtless assisted by the new acquaintance with Greek laws of accentuation: but which certainly dated from an earlier time, as is shewn by the numerous syncopated forms in Plautus, and seems even to have been as old as the XII. Tables.

Accentua-
tion in
other lan-
guages.

I have already mentioned that Corssen holds a similar older law of accentuation to have existed in Greece as well as in Italy. Such an agreement would materially increase the probability in either case; for we should regard this older freer state as that of the Graeco-Italian time, and should conclude that each nation developed out of this after the separation its own system of accentuation as of pronunciation². And

¹ See Corssen, II. 334.

² The evidence for an older system in Greece consists (1) of the reduplicated presents (see p. 191), like *μῦ(ε)ρω*, where the accent ought by the later rule to have fallen on the last vowel; which would therefore not have been lost: (2) of nouns ending in *ω*, as *δῶρεω*, *δῶρεω*, &c. where the *ω* must have been long, while it is not probable that the vowel of the penultima was

we should be confirmed in this belief by discovering that in Sanskrit the accent is absolutely free—is subject to no general law, but shews many traces of a battle between the radical syllable and those prefixed or suffixed, which modified it. The Sanskrit system has been left in a sufficiently simple form to enable us to say with certainty that the principle of it was this: that the accent should fall to that syllable which was felt to be most important. This is the mark of the freshest power of conception in a people: and is the principle which we may therefore with some certainty attribute to the Indo-Europeans. Of the other derived nations, the Greek stands nearest to the Sanskrit, by still keeping the power of emphasising change of idea expressed by suffixes; but it was bound by the rule that the accent could not stand farther back than the antepenultima. In Latin we see an additional loss of energy, in the weakness of its terminations, as well as the restraints which it shares with the Greek. The German family, in which the accent was unaffected by quantity, but always thrown back as far as possible in the word, shews the least living force of all.

always mute; at least it is often scanned as a full short: (3) of the words ending in *ai* and *oi* which are accented on the antepenultima; these cannot really have been long in quantity and at the same time short for accent: (4) of some feminines like *εὐπρο(φ)ία*, *ἀλήθεια(σ)ία*, &c.; in them the final *a* was doubtless long originally, and it is inconceivable that the accent should have been thrown back if the long final had always power over it; neither is it probable that the *a* was first shortened and then the accent thrown back, for there seems no other reason for the shortening of the *a* except the distance of the accent; at all events in words like *ιερεία* (sacrifice), *δουλεία* where the accent seems to have been always on the penultimate, the final *a* was never shortened. The possibility of the accent being farther back than the antepenultima, is shewn by syncopated words like *βέβ(α)λῃται*, *ἤλ(υ)θοντες*, *ἐγ(υ)ντο*, &c. Here it would certainly seem that the accent on the first syllable must have been the cause of throwing out the vowels from the radical syllable, which ought moreover to have been accented. These indications clearly do not amount to proof: but they at least give us some reason for believing it probable that at an earlier period the Greek accentuation was more free than afterwards.

Such, briefly stated, are Corssen's views about accent, so far as I understand them. His theory is certainly arbitrary; and many of the instances on which he relies to prove it, may be susceptible of a different explanation. But as it seems to me both possible and plausible, and as I know of no other equally good, I have thought it right to give it here.

Middle stage in Latin between a vowel fully sounded and entirely lost.

It is not probable that the vowels thus lost fell out abruptly, with no intermediate step. Before a short vowel finally vanished it commonly passed through a stage in which it was scarcely heard though still written, retained without possessing any definite quantity, and liable therefore to be pronounced more or less distinctly according to chance of position. Such vowels accordingly had not the full length of a short vowel, for scanning, and therefore could be ignored at the pleasure of the writer, whether they occur in enclitics, as *ipse, est, quidem*, &c., or in the grave syllable of accented words, as *voluptas, manu, bene*, &c. Further, such a vowel could be disregarded even before two consonants, as *senectuti*¹, *ferentarium*, &c.²; also when a word ended with a consonant which was weakly sounded, such as *m, n, s, t, d*, and the next word began with a consonant, the vowel before the final consonant if weak itself was not lengthened by "position." These facts are conclusively proved by Corssen in the *Aussprache*, &c. Vol. II. pp. 70—126, by numerous examples³ from the Latin dra-

¹ Plant. Trin. 398.

² Id. 456.

³ For a long list of similar examples, see the excellent edition of the *Trinummus* by Brix, Intr. p. 16.

The short vowel before doubled consonants in Plautus, e.g. *simillimae, Philippum*, is not parallel. These are to be explained by the well-known fact that the double consonant was not written before the days of Attius and therefore the sound wavered between a long and a short, but was probably always distinctly heard. So also in words like *azor, senex, Alexander*, the reason of the apparently irregular shortening is that *x* did not sound much more than *s*.

matists, who give us the best evidence by the common pronunciation of the day: to these vanishing vowels he gives the name "irrational." This then is the cause of the apparent irregularities in the lines of Plautus and Terence; which are regular enough if we do not apply the standard of Greek metre to them. In these writers such vowels (following the analogy of the spoken language) are *dumb* although written. But this license was impossible in the regular metrical system of the Augustan poets. They could not brook these syllables either alive or dead. For them every vowel must be a full long, or a full short, or cease to exist altogether: they could not make up one short syllable out of two or three half-heard ones. Consequently they either struck out the lingering vowel-sound altogether, as in *dextra*, or raised it to a full short, as *dextera*; they could not leave it ambiguous as *dēxtera*, where the vowel was heard indeed, but did not take up the time of a full short. It was no doubt especially the introduction into Rome of the dactylic metre, which favoured short syllables, that stopped in written Latin the ever-increasing vowel-corruption, and fixed the vocalism at that point which it had reached at Cicero's time. But the spoken Latin was being further corrupted none the less: its downward path must be traced through the vernaculars and into the Romance dialects.

This explanation of the extensive corruption and loss of vowels in the Latin—that it was caused by the vowel gradually dying out of unaccented syllables—seems to me by far the most probable. It is given as I have already said by Corssen; it is also now maintained by Ritschl¹, though a different view was taken by him in the Prolegomena to the *Trinummus*; by Dr Wagner in the admirable Introduction to his edition of the *Aulularia*, the first attempt with which I am ac-

¹ See *Rheinisches Museum*, xiv. 400.

quainted to make known in England the process and results of etymological research in Germany; and by Prof. Munro, in a review of Dr Wagner's book¹. The opposite view is held by Prof. Key, and was formerly held by Ritschl, that the words were compressed in the utterance, e.g. that *manus* was sounded as *mnus* (not as *manūs*, with the last syllable "dumb"); similarly that we should pronounce *snex*, *sror* for *senex*, *soror*, &c. This theory is often supported by instances like *père*, *mère*, &c. in French, where the *t* is supposed to have fallen out through this compression of the total sound². But the reference to French to prove the pronunciation of Latin, seems to me just as deceptive as to argue from modern to ancient Greek: on which subject I have spoken above. While much may be said for this, as for all Prof. Key's theories, yet this one seems to me much less adapted than Corsen's to the genius of the Latin language, which as we have seen already in part, and shall now see more fully, produces above all things corruption of the *last* syllable.

Loss in and of the final syllable arising from its never being accented.

For I come now to the loss of the final syllable, both when the vowel itself ends the word, and when it is followed by an imperfectly sounded consonant, which was lost either before, or with the vowel: as the principle is the same in both cases, they may be considered both together. I thought it better to defer these until I had stated a probable reason for them, because the examples are mostly familiar to you, and I should have run the risk of merely telling you a number of isolated facts which you knew before; whereas you will be able now, I hope, to refer them all to one principle. Often where the vowel is not absolutely lost, it has suffered loss of quantity from the same general cause; I must therefore for the sake of completeness briefly consider this loss also,

¹ *Camb. Univ. Gazette*, April 28, 1869.

² It is, I think, more truly explained by Wagner (*Aul. introd.* p. xxxiv. note) as having been assimilated to the *r*.

though I have not now time to enter fully into the history of Latin prosody, a good account of which (so far as Plautus at least is concerned) will be found in Wagner's *Aulularia*, and Brix's *Trinummus*.

The loss in quantity as the slighter loss will naturally Loss in quantity. come first: and here let us first look at those cases where the vowel of the last syllable has been shortened, although the final consonant was not lost, but probably indistinctly pronounced—a point which will come under our notice when we treat of consonantal change. Thus, *ā*, *ē*, *ī* were long in the verbal bases *amā*, *monē*, *audē*, and as they are still found long in the second person *amās*, &c., were no doubt once always long in the third also, *amāt*, &c. Yet instances are hardly to be found of the vowel occurring long even in Plautus¹: on the contrary, the syllable is commonly short: though oddly enough there are several instances of *ā* in the imperfect even in classical Latin; where the unusual length is generally explained by the editors as simply the result of arsis: I have already said that “metrical license” is most foreign to the spirit of the Augustan poetry: and we should never have found e.g. *amittebāt*² if the old long-sound of the *ā* had not been sometimes heard in the speech of the day. Examples of the vowel being still long in the present in the Augustan age are *arāt* (Hor. *Od.* III. 12. 26), *ridēt* (*id.* II. 4. 14), *vidēt* (*Aen.* I. 308)³. For the subjunctive we

¹ Corssen quotes *Merc.* 648, ‘Quid istuc captas consilium? Quia enim me addiciat amor.’

² *Aen.* v. 853.

³ Prof. Munro, in a note to *Lucr.* II. 27, denies that there is any analogy between *fulgēt* there (and similar long forms in Virgil) and the lengthening of such syllables in Ennius. But at all events Virgil would not have lengthened a syllable which was not long in Ennius; there is at least so much analogy: and if my principle be correct, the vowel cannot have been wholly short in the common speech even of Virgil's day; or he would not have used it as long. That such long syllables are only found in arsis in Virgil, and not in thesis as in Ennius, is natural enough, for no doubt the tendency to shorten the final syllable, when not emphasised, had increased greatly between the days of Ennius and Virgil.

have *fuāt*, *augeāt*, &c in Plautus and Terence; the *ā* being afterwards shortened by the general tendency to weaken the final syllable. Similarly Horace has *perirēt*¹. Curiously even the *i* in the third conjugation is found long in *figūt*², and *facūt*³ and others. Wagner compares the Greek e.g. *λέγει*⁴; and therefore, I suppose, regards the lengthening as compensatory: but it may be on a mistaken analogy. The perfect has its third person long more frequently, as *astitūt*⁵, &c., and compare the end of one line of the epitaph of Scipio, "hic fuīt apud uos." In the second person of the subjunctive perfect, the *i* seems hardly more short than long in the Augustan age. Examples of the long *a* in the present are *loquār*, *opprimār*⁶, &c. Passing from verbs to nouns we see in Plautus the final still long of *sorōr*, *stultiōr*⁷, &c.; though the *o* is elsewhere short in *soror* and similar words, as might be inferred from the process of weakening which gradually reduced the full long vowel to something less than a short. Hannibāl was still long with Ennius, as Corssen suggests⁸, because the name was derived from the Phœnician Baal, and was naturally long, and afterwards shortened by the prevailing Latin tendency. Lastly *-būs* (originally *-bhyas*) in the dative plural is long in Plautus⁹: and rarely in Virgil, e.g. in *Aen.* iv. 64.

Loss of
quantity
when the
final con-
sonant was
lost.

When the final consonant was not merely weakly sounded but absolutely lost, the tendency to shorten the preceding vowel was still stronger. The vowel remained unguarded to suffer the wear and tear of use, and was affected in the same way as originally final letters. Here, as in the cases mentioned above, vowels which were generally long in the days

¹ *Od.* iii. 5. 17.

² *Ecl.* vii. 23.

³ *Plaut. Mil.* 213.

⁴ *Poen.* i. 2. 151. *Bacch.* 123.

⁵ e.g. *Aul.* 376.

⁶ *Od.* iii. 24. 5.

⁷ *Introd.* p. xix.

⁸ *Plaut. Amph.* 559, and 1056.

⁹ i. 366.

of Plautus and his cotemporaries were shortened in the common speech in the last century before Christ—so much so that they were generally scanned as such by Virgil and Horace, though the older quantity occasionally still appears in their times, breaking the regularity of the Greek metres they employed. Some words retained their concluding vowel long to a late period. When the *d* of the ablative was lost, final *a* none the less retained its length till the times of the later empire. One exception is *itā*, which is long in Naevius' well-known line,

Itaque postquamst Orci traditus thensauo.

But final *ē* commonly sank to *ē*, as *patrē*; though we have on Scipio's tomb,

Gnaiuod patrē prognatus, fortis uir sapiensque.

Traces are found of a middle form *ei*, as in Ennius' line;

Tum caua sub montei late specus intus patebat.

Long *e* was retained in *mē* and *tē* from *mēd* and *tēd*: whilst the ablative of the third pronoun kept the *d* but shortened the vowel, and appeared as *sēd* literally "by itself:" its original length is shewn in compounds like *sēd-itio*. Adverbs in *-e*, originally ablatives in *-ed*, generally remained long, except short words in common use, as *bene*, *male*, and a few trisyllables where the accent fell on the penultima, as *inférne*¹, *supérne*. Similarly *quē* was originally *quūd*, then *quī*, *quē* (by the tendency mentioned above to change a final vowel into *e*) and *quē*²: and from this longer vowel still being possible to the consciousness of language, Virgil could write his "*Liminaquē laurusque Dei*."³ Then

¹ Lucr. vi. 597.

² The correspondence in meaning with the vulgar English "which" is comical. When Virgil said "*Arma uirumque cano*," "arms I sing, which I sing the man," he was unconsciously using the exact idiom of Mrs Gamp and P'leaceman X. The originative power of language is limited after all.

³ *Aen.* iii. 91.

modō, whilst still used as the ablative of *modus*, is shortened by Plautus¹: so also *cito* and *ergo*, adverbs, though the latter is not commonly shortened till the Silver age, when numerous examples of final *o* shortened are found², which would have been inadmissible in classical Latin, but which were daily growing more numerous in common speech in the days of the classical poets. In fact the Augustan authors used the short final *o* only in words which had been so completely worn down by common use that no feeling of their old length remained, such as *citō*, *modō*, *homō* and *egō*, shortened from *homōn* and *egōn*. A huge list of words ending in *ō*, which are found in Juvenal and Martial—who no doubt reflect the common pronunciation of the day—is given by Corssen, from whom indeed nearly all the examples I have quoted above are taken³.

Loss of
quantity in
originally
final
vowels.

Next, the loss in Latin terminations is to be seen in the shortening of originally final vowels. Thus the *ā* of the feminine nominative was early shortened, leaving but few traces of itself in Ennius and Plautus⁴; and sometimes certainly in inscriptions, as in the grand line on the tomb of the young L. Cornelius Scipio⁵,

Quoiei uitā defecit, non honos, honore.

In locatives we find *ī* in *domī*⁶, and others in Plautus: *mīhi*, &c. could have the final vowel short or long down to the Augustan age; compare *nisi* and *quasi*. Imperative dissyllables early shortened the last vowel, as was but natural to the brevity of command; *rogā*, *iubē*, *manē*, &c. are frequent in Plautus: also other (not imperative) forms, as *darī*,

¹ *Aul.* 589. See Wagner's *Introduction*, p. xxii.

² e.g. in Juvenal, *ponō* (vii. 98), *uigilandō* (iii. 232); and numerous others both in this author and in Martial.

³ Corssen i. 346.

⁴ *As.* 762 *epistula*: *Bacch.* 255, "Volcanus, Sol, Lunā, Dies, Di quattuor:" unless we follow Fleckeisen and transpose Sol and Luna, for which there seems ~~no~~ occasion.

⁵ Mommsen, *Corpus*, n. 84.

⁶ *Mil.* 194.

dedit, because of their shortness and frequency: *o* also in the first person is short in *eō* and *volō*—disyllables again, and found in Plautus, but in the Silver age the tendency had affected longer verbs as well.

We now come lastly to the absolute loss of the vowel, either when it stands actually last, or when it is followed only by a weakly-sounded consonant, that is practically by none at all—the result, like the loss of quantity already considered, of the tendency in Latin to throw back the accent as far as possible from the end of the word, subject to the rule of the length of the penultima. First under this head comes the loss of original *o*, or later *u*, in the nominatives, such as *ager(os)*, *puer(os)*, &c., a numerous class; as *famul* for *famul(os)* used by Lucretius¹ after Ennius,

Ossa dedit terrae proin ac famul infimus esset.

It is not easy to determine in these cases whether the vowel or the *s* went first: we should rather have expected the *s*: but there are no traces of the vowel surviving: on the contrary, *s* is found alone in words like *Campans*², but this seems almost unique. But the vowel *i* has certainly fallen out and left the *s* in nouns like *Arpina(ti)s*, where the *t* after the loss of the vowel would seem to have assimilated itself to the *s*; so in *men(ti)s*, *fron(di)s*, and very many others: in *orb(i)s*, &c. where the preceding consonant is not a dental, it keeps its place unchanged. Where a liquid precedes, the liquid maintains its ground, and the *s* is lost, e.g. *vigil(is)*, *uomer(is)*, *pedester(is)*, and very many others; where however the accent falling on the antepenultima sometimes drove out the *e* of the next syllable, and produced the other form, as *pedestris*. The same principle seems to have produced out of *uelis* (i. e. *si uelis*) the conjunctive *uel*³.

¹ III. 1085.

² Plaut. *Trin.* 545, quoted by Corssen, II. 55.

³ Corssen, II. 60.

I followed by no consonant fell away regularly in neuter nominatives, such as *animal(i)*, *lacunar(i)*, *cochlear(i)*, *piper(i)*, *lac(ti)*: though Corssen mentions forms in *-e*, as *lacunare*, existing side by side with these, as was quite natural; he quotes *sale* (i.e. *sal*) from Ennius. Similarly in many adverbs the *i* has been lost, as *tot(i)*, *ut(i)*, *post(i)*, &c. For *tot* and *quot* Corssen compares the Sanskrit *tati* and *kati*, and calls *ti* a "demonstrative particle:" but *tati* seems to be rather an old locative form produced by adding *i* to the pronominal base *tat*. The *i* was lost in very old times from the verbal terminations, as *regis(i)*, *regit(i)*, *regont(i)*; also from *regebām(i)*.

E was lost in imperatives of the third or old conjugation, just as *ā* and *ē* were shortened in the first and second: e.g. in *dic(e)*, *fac(e)*: but the full forms are common in Plautus: this loss therefore was a late one. Many little words in common use have lost their final *e*, as *neu(e)*, originally *ne uelis*, *hic(e)*, &c.; *nec* (i.e. *nequī* or *nequē*), *qui-n(e)*, *si-n(e)*, &c. The fuller forms, *hice*, *hae-ce*, the nom. plur. *hisce*, &c., are sometimes still to be seen in Plautus. This *e*, which was in these cases weakened from *i*, must have been so slight a sound, and so little inconvenient at the end of a word, that it is lost less frequently than we might have expected.

LECTURE XI.

CONSONANTAL CHANGE.

IN the last five Lectures I have mentioned, I think, the most important variations of the Greek and of the Latin vowel-system from that of their common Graeco-Italian ancestors, and from the simple vocalism of the earliest historic period of our race. We have seen in these variations the strength of the Greek and the weakness of the Italian. We have seen how the Greek could adhere in the main to the simple distinction of scales in the original vowel-system, and yet could avail itself with remarkable success of any expansion of that system. The Greek vocalism shews the greatest observance of rule, combined with the greatest individuality; and thus coincides with the highest development of Greek character to a degree which seems at first surprising, which yet ought not to surprise us, if we believe, as we surely may, that the character of a nation must be impressed on its language, so far as that language is the result of pure internal development, and has not been compounded of many foreign elements. The Italian on the contrary both confounded that distinction of the three main vowels which is essential for the clear expression of distinct radical ideas, and also subjected itself to a rule which kept ever increasing in

Superiority of the Greek over the Latin thus far manifested.

Greater
strength of
the Latin
consonants.

stringency, the tendency to uniform monotonous weakening. So far then we have seen the Greek at its best, the Latin at its worst. Now we shall see the better side of the Latin compared with the Greek, shewn in its greater tenacity of consonantal sound. No doubt the Latin not unfrequently substituted a weaker for a stronger consonant, as well as the Greek or indeed any other language: every language has its own peculiar weakenings of this kind; they are the most obvious marks of distinction between one language and another. But the greater strength of the Latin consonants is shewn in their comparative freedom from assimilation, which in many Greek verbs obscures the radical form. Thus in *φράσσω* we have the same root and the same suffix (*yo*) as in the Latin *farc-io*: but the *k* of the root is lost in Greek from the assimilating effect of the *y*, which in Latin was simply resolved into the cognate vowel, and exercised no power over the stronger consonant: indeed the *k* is hardly recoverable in Greek because it has regularly sunk to *γ*, as in *ἔφραγον*; just as it sank to *baig* in Gothic, that language which of all the Indo-European family comes nearest to the Greek in the richness of its vowel-system: the original *k* is to be discovered in the less spiritual Latin and Lithuanian. Generally speaking, however, the original form is recoverable in Greek from some of the tenses which are formed directly from the root: the Greeks felt too keenly the necessity of clearness to suffer the consonants to be absolutely obliterated; they are the necessary framework of language, the body which is needed for the soul; yet the soul may be vigorous though many bodily members are weak or even lost. It is curious too how the innate Greek love of symmetry is recognisable even in the weakenings of its consonants: they are nearly always regular, not often isolated: there is a system to be found in almost all of them: while the Latin looks uneven in the midst of its regularity; its loss especially

of consonants in groups is arbitrary and not reducible to rule; and even its less corrupted verb-forms have a more "irregular" appearance than those of the Greek. Nothing can look more regular than *ἔξομαι, στίζω, σχίζω, μύζω*, &c., but this regularity leaves us quite uncertain whether the root ends in a guttural or a dental; while there is no such uncertainty about the very unsymmetrical forms which correspond to them in Latin, *sedeo, stinguo, scindo, mugio*. But these points will be clearer when we see the difference in the changes of the two languages.

The principle of change is here the same as in the vowels. Desire for ease of articulation leads naturally to the change of a stronger to a weaker sound. It will therefore be necessary for us first of all to get some general idea of the relative strength of the consonants. It can be but general, because every language has its own scale, which is discoverable only by investigating the facts of each particular language: but we can lay down a few broad rules which seem to be common to all languages, as they depend on physiological facts which do not vary for different peoples; and then see how far the history of the Greek and Latin languages confirms these rules: and how far the facts which will come before us point to peculiar rules of these two languages.

First of all then we may assert with confidence that a momentary sound is stronger than a protracted one, and therefore we may expect to find, as we actually do, that a momentary sound passes into a protracted one, but not vice versa, except from some assimilating influence which is sufficient to explain the apparent irregularity. It is I think quite clear that the complete check given for a moment to the breath must require a stronger effort on the part of the organs of speech, than is needed when there is no perfect stoppage, but the stream of air is suffered to flow on in a

General rules to determine the relative strength of the consonants.

Momentary sounds stronger than protracted.

slightly altered current until it is exhausted; just as the mill-dam endures a more violent pressure than the break-water over which the stream rushes.

Hard sounds stronger than soft, each in their own class.

Next, among the momentary sounds, the hard will be stronger than the soft, each in its own class. The difference of effort will be seen by producing both sounds, but is not easily demonstrable without entering more into physiological questions than I purpose to do¹: the rule however will be sufficiently borne out by facts of the Greek and Latin: in which there is no backward process, such as that of the Teutonic *Lautverschiebung* (better known to us as the changes of Grimm's Law): the difficulty of which seems to me to be met by the explanation that the change began in each case by weakening, that when e.g. the aspirate (or the breath which represented it) was used by weakening to express an originally hard, and a soft was used to denote the aspirate which had taken to other work, then for the sake of clearness it became absolutely necessary that the remaining hard should take the place of the original soft.

Unaspirated sounds stronger than the corresponding aspirates.

Next, the aspirate is weaker than the corresponding unaspirated letter. This follows from the nature of the aspirates, of which I have already said something², and shall have more to say hereafter: the breath heard in each case follows upon less permanent, that is less strong, contact. On this theory it no longer seems unnatural that the more voluminous *kh* should be weaker than *k* or *gh* than *g*. But when the sound denoted here by *h* became at last, as I believe it did, not a subsidiary breath but an independent sound, the spiritus asper; then *kh*, *gh*, &c. must be treated as compounds, subject to the ordinary influences which affect compounds, such as loss of one of the members, or

¹ It is hardly necessary to refer any one who wishes to understand this part of the subject to the third lecture of Max Müller's second series.

² See Lect. I. p. 10, see also p. 55.

assimilation of one member by the other. This is the reason why, though *gh* be weaker than *g*, we can yet find in Latin, and perhaps in Greek, *g* in the place of original *gh*: e.g. *ang-ustus* from Indo-European *AGH*: *gh* has become a double sound, and the *h* has been dropped from the end of the compound. That the aspirates were in their origin later than the unaspirated letters, can be best seen in Sanskrit—a language which especially deserves our thanks for performing within historical times so many of the oldest processes of language. There we see the hard aspirates being produced from the hard letters, e.g. *th* from *t* in the superlative *pra-thama*, where the analogy of other languages leaves no doubt that the suffix was originally *-tama*, and the *th* consequently the product of Hindu laziness¹.

The hard then is naturally stronger than the soft, and the unaspirated than the aspirated letter. What now is the relation of one hard to another hard? What law of strength governs the exchange which we sometimes find between one class and another, guttural and dental, dental and labial, &c.? We have already, in dealing with vowel-assimilation, considered the vowels as sounds produced at a series of points in the passage of the air from the lungs to the lips: and I have explained why such order could not be taken (as we might have expected it should be) for the scale of vowel-strength, because each vowel is not so much simple breath, but breath modified by the different organs which it passes; and it is the sum of the whole exertion, of both expelling and partially checking the breath, which is the measure of the strength of each particular vowel. But in the case of consonants, where there is a complete check, the rule that their strength varies as their distance from the lungs seems to be absolute; that is, that the gutturals are stronger

*Of the
different
classes the
gutturals
are the
strongest.*

¹ See Curtius, *Gr. Et.* p. 389.

than the palatals (in those languages which possess palatals), the palatals than the linguals, and these than the dentals and the labials: and this is the order of the consonants given by the acute Indian grammarians, doubtless intentionally. The current of air is strongest at the outset, and gradually grows weaker. No doubt an additional impulse may be given to it at any point of its passage; but if no such impulse be given, it naturally is feebler at the lips than in the throat. Therefore the minimum effort required to stop it at the lips is less than in the throat: in other words, a labial is naturally a weaker sound than a guttural. The merest closing and opening the lips is sufficient to produce the sound *p* with hardly more additional effort than is required for the mere passing out of the air within the mouth; but it is impossible to sound *k* without conscious effort. Therefore we must expect *k* to pass into *p*, but never without strong reason allow that *p* can pass into *k*. Here again the Sanskrit stands us in good stead by its greater number of consonants. The theory that the guttural *k* is naturally the strongest of all sounds is borne out by the fact that *k* actually passes into the palatal *ch* but not *ch* into *k*: when we have the double form in a group of Sanskrit words, we find regularly *k* in corresponding words of other languages; so that *ch* is clearly a Sanskrit weakening. Again, the greater strength of the gutturals is shewn by the difficulty which children find in pronouncing them; also by their hardly appearing in terminations, or when they do, yet never as the second element of a consonantal group, not *tk*, *dg* but *kt*, *gd*¹. This last argument indeed cannot be pressed to its full result, for we find in terminations *pt* and *bd*, as well as *kt* and *gd*, so that by this reasoning *p* and *b* ought to be stronger sounds than *t* and *d*. But the reason here

¹ *Gr. Et.* 390.

seems to be that labials, which require perfect closing of the lips, are ill suited for the end of a word, where we instinctively prefer those sounds in which the breath is not articulated by the lips, as among the vowels *e* rather than either *o* or *u*. Probably indeed dentals and labials do not differ much in strength, but still, in the few cases of exchange, it is the dental that seems to pass into the labial.

We have thus got a tolerably definite idea of the sort of changes we must expect to find among momentary sounds. For the protracted sounds it is less easy to lay down rules. They are in their nature much less definite than the momentary; and much depends on the length of time during which they are sounded. The nasals, as we have seen, are to some extent dependent on other stronger consonants; the guttural nasal indeed not often standing single. Curtius thinks that where we find *m* and *n* in corresponding words the *m* is the stronger. But most of his examples (e.g. *δόμον* but *domum*, Sanskrit *damam*, and the German *Faden* for old *Fadem*) are of final *m*, which, like other labials, is inconvenient at the end of a word. If we assume the strength of the spirants in the order of their pronunciation, we should get *y*, *s*, *v*, which is probably correct, but they do not seem to interchange much. Certainly neither of the last two ever passes into *y*; and Curtius thinks even the few cases where we find *F* on inscriptions instead of original *y*, e.g. *φόρι*, are pure mistakes in writing; it being known that some letter had dropped, and more trace of *v* having been left than of *y*. The history of *h* differs for different languages. In Greek it is always the remnant of one of the spirants, and weaker than any of them; in Latin it has replaced *gh*, and seems to have been pretty strongly sounded. Since *r* when sounded distinctly is a lingual and *s* a dental, we should expect that *r* would pass into *s*. In Greek and Latin, however, the reverse is undoubtedly the case; in fact,

General
rules
hardly
possible
for pro-
tracted
sounds.

Among the
nasals *m*
may be
stronger
than *n*.

Of the spi-
rants, *y* is
the strong-
est;

h is the
weakest in
Greek.

In Greek
and Latin
s is stronger
than *r*.

r is a fluctuating sound which can be produced at different points of the air-tube; and, at least in Latin, it seems to have strong affinities to the dentals, as we shall hereafter see. In Greek the change from *σ* to *ρ* is pretty well confined to the Laconian¹. We have already seen that *r* is older than *l*; see page 81. Many suggestive remarks on this subject of consonantal strength are to be found in pages 385—398 of the *Griechische Etymologie*. I shall say no more here, but shall proceed to the actual changes found in Greek and Latin, under the same heads as we took for vowel-change; but taking Loss immediately after Substitution for greater convenience of arrangement; since some classes of letters, especially the spirants in Greek and the aspirates in Latin, suffer from both.

I. SUBSTITUTION.

1. *Change of hard (unaspirated) letters to soft.*

*Change of
hards to
softs—not
very com-
mon.*

This change is the simplest process of substitution. It is not very common in either language, and less so in Latin than in Greek; in both languages it is sporadic only, never affecting the whole even of any class of words.

*Change of
K to γ
and g.*

Thus *κ* passes into *γ* in *ἀργῶν* from the root APK, which is unaltered in *ἄρκιος*. May the change arise from the softening influence of the two vowels and *ρ*? I have already mentioned the Greek *φραγ-* by the side of Latin *farc-io*, but the *σσ* of *φράσσω* shews that ΦPAK must have been the real Greek root, for we should have had *φράζω* from *φραγ*. Indeed, the Latin has commonly preserved for us the original letter, which the Greek has weakened. Thus in Greek we have *πήγνυμι*, and even in Latin *panga* and

¹ Curtius, *Gr. Et.* p. 396.

pagus: but *pac-iscor* shews that the oldest form of this common root, "to fix"—whence "to build" or "to covenant"—was PAK, and not PAG, as we should have rather supposed from the frequency of the *g*; and πάσσαλος (i. e. πακ-γα-λο-ς) tells the same tale. Compare μίσγω and *misceo*¹.

In Latin *gloria* is from *KLU*, the Indo-European *KRU*; the first step is the noun *clouos* (compare κλέφος), which with the suffix *ya* becomes the secondary noun *clouosia*; and this, by the loss of *u* and the change of *s* to *r*, is *cloria*; after which the *l* is probably responsible for the *g*, and the change therefore is rather one of assimilation². But there is simple substitution in *viginti* by the side of **ἑκκατι** (Attic εἴκοσι), and *gubernio* (κυβερνάω); whilst the variation within the Latin itself is seen in *gurgulio* by the Plautine *curculio*³. The older *k* is pointed out by Corssen (l. c.), as often found in the Old Umbrian, where the Latin had weakened it.

But this change of sound in Latin is doubtless connected with a curious and well-ascertained fact in the history of the Latin alphabet. The old Latin alphabet had, like the Greek, K for the hard guttural, C or < (Greek Γ) for the soft. But the difference between the two sounds was nearly lost at some early period, and consequently K fell out of use: it was only retained occasionally before *a*, though it was regularly kept as the abbreviated form of some words as *K(aeso)*, *K(alendae)*, &c.; whilst C, not G, is found in old inscriptions in forms like *macister*, *cnata*, &c.; *leciones* stands on the restored Columna Rostrata: C. and Cn. were used till quite late for Gaius and Gnaeus. In fact, *k* and *g* alike were represented by *c*, that is by the *g*-sound. But at a later date, some time in the third century B.C., the distinction of sound

Peculiar change of the hard guttural in Latin.

¹ A full list of all the gutturals thus changed in Greek is given in the *Gr. Et.* 467—469.

² See *Krit. Beitr.* 53.

³ Corssen, l². 77.

begins to reappear, as Corssen suggests very probably¹, from the increasing intercourse of Rome with foreign peoples, especially the Greeks of southern Italy. But instead of replacing K for the hard guttural sound, the Romans slightly modified the existing symbol C, so as to denote G, and kept C for the hard sound². That the rather frequent change from *k* to *g* in Latin is due in great measure to their confusion, seems to me probable, from the fact that for the other classes there is less corresponding weakening; to which indeed the Latin had no great leaning. The change of K or C into QV will be considered afterwards; also its weakening under some particular circumstances into a palatal sound like *ch*, which arises from assimilation.

Change of
T to δ and
d.

The hard dental passes into the soft much more rarely even in Greek. We find δάπις³, which seems to be the same as τάπης. It is at least probable that the curious word νέποδες⁴ is the same as *nepōtes*, the shortening of the *o* being due partly to the accent, partly to the confusion by the grammarians with πόδες: whereas Curtius rightly, I think, derives both from the root NAP, whence come so many words denoting relationship: ἀνέψ-ιος, "a cousin," the Sanskrit *naptar*, "a grandson," the Norse *nefi*, "a brother," and our "nephew;" a rather remarkable list of different "specialisations" in different languages. That the groups πτ and κτ have sunk to βδ and γδ in ἐβδομος and ὀγδοος from ἐπτὰ and ὀκτὼ seem equally undeniable and difficult to explain⁵.

In Latin it is probable (as Corssen asserts⁶) that there

¹ r². 10.

² The earliest place where G certainly occurs seems to be the tombstone of Scipio Barbatus, about 200 B.C. Corssen, *Id.*

³ Arist. *Vesp.* 676.

⁴ Od. iv. 404. Theok. xvii. 25. See *Gr. Et.* 241, and 471.

⁵ Curtius (*Gr. Et.* 471) thinks that *o* in ἐβδομος was irrational, and that the *μ* assimilated the *τ*, and that in time the *π*.

⁶ *Krit. Beitr.* 83 et seq.

is no instance of *t* sinking to *d* at the beginning of a word, or between two vowels; that is, of regular substitution. The confusion between *t* and *d* at the end of a word (shewn in the different spellings of the best MSS., *aput* and *apud*, *haut* and *hard*, *set* and *sed*, &c.) belongs rather to the universal weakness of Latin terminations. The rule that the prepositions ended in *d*, and the conjunctions in *t*, seems to rest neither on etymological grounds nor on the actual inscriptions¹; rather the final letter of these words, which were enclitic and fell constantly under one accent with the following word, was assimilated by the initial letter. Assimilation is the cause of *quattuor* turning into *quadraginta*: the numerals both in Latin and Greek constantly shew us odd variation of sound, so that identification must often depend, as it may safely here, on sameness of meaning.

For the change from π to β Curtius gives about a dozen more or less certain examples, of which perhaps the best are $\beta\rho\iota\varsigma$, which seems to be derived from $\iota\pi\acute{\epsilon}\rho$, and $\kappa\alpha\lambda\upsilon\beta\acute{\eta}$, compared with $\kappa\alpha\lambda\acute{\upsilon}\pi\tau\omega$ ²: the π may be the mark of a secondary root KALP from KAL; compare Latin *clup-eus*. Change of
P to β and b .

There are rather more examples in the Latin. *Bibo* is certainly a weakened reduplicated form of PA, "to drink:" the Greek has preserved the consonant but weakened the vowel to ι . *Scabillum* too may be compared with $\Sigma\text{K}\text{A}\Pi$ in $\sigma\kappa\acute{\eta}\pi\text{-}\tau\rho\omicron\nu$, &c., and *glaber* with $\gamma\lambda\alpha\phi\upsilon\rho\acute{o}\varsigma$ ³. This weakening however is especially remarkable in words borrowed at an early date from the Greek, as *Burrus* for $\Pi\acute{\upsilon}\rho\rho\omicron\varsigma$, *carbasus* for $\kappa\acute{\alpha}\rho\pi\alpha\sigma\omicron\varsigma$. At a later period *p* is not changed in words similarly borrowed: and this weakening of *p* into *b*, in connection with that of *k* to *g* mentioned above, may perhaps shew, as Corssen suggests, that the Romans just before their more extended intercourse with foreign nations had not a good

¹ Corssen, i.² 191, &c.

² Gr. Et. 471—474.

³ Corssen, i.² 128.

ear for the distinction between hard and soft checks: a distinction which under Greek influence they afterwards recovered. Undeniably a parallel revival took place in Umbria through Roman influence.

2. *Further substitution for momentary (unaspirated) sounds.*

Change of
D to l in
Latin.

Such substitution seems to be confined to one or two cases in Latin. In Greek there is no further change of these letters which does not seem to belong rather to assimilation than to simple substitution. In Latin the only letter which is much affected is *d*. This sometimes passes into *l* and *r*. The first change takes place commonly at the beginning of a word: thus *leuîr* = the Greek *δαίηρ*, and the originality of the *d* is shewn by the Sanskrit *dēvar*. That *lingua* was originally *dingua* is probable from the Gothic *tuggô*, our "tongue." And *dacrima* as the older form of *lacrima* (corresponding to *δάκρυ*, and Gothic *tagr*, a "tear") was used by Livius Andronicus according to Festus, and probably, as Bergk suggests, by Ennius in his famous lines:

Nemo me lacrumis decoret neque funera fletu
faxit. cur? uolito uiuos per ora uirom.

The argument from alliteration seems irresistible. There are some rare but undoubted examples of the same change between two vowels: as *olere*, *ol(e)facere*, &c. from *OD*, which is found in *odor* and in *ὄδωδα*. Corssen explains the change by the fact that the tip of the tongue is in motion in sounding *l*, and also in sounding the double *d*; whence the variation¹. Perhaps however the real explanation may be that Latin *d* was not a true dental — i. e. the tongue may not have been pressed really against the teeth but only

¹ *Ausepr.* i². 223.

against the upper part of the mouth behind the teeth, as is commonly the case in England: if so, the point at which *d* and *l* were sounded would be exceedingly near, and confusion possible. And the same reason would explain the other change of *d* into *r*: which is not at all uncommon in old Latin, e. g. in Cato's book on agriculture; and *arfuerunt*, *ar-*^{Change of *D* to *r*.}*fuisse*, *aruorsum*, for *adfuerunt*, &c., occur in the Decree concerning the Bacchanalia¹. But in the classical Latin these words again appear with the *d*, shewing that the change was only beginning to be felt at the commencement of the literary epoch, which checked it: only three words which are familiar to us shew the *r*: these are *arbiter* (but *ad-bitere*), *arcesso*, and *meridies* (root *madh*, as in Sanskrit *madhya* and μέσος, i.e. μέθ-yo-ς: this *dh* would become *d* in Latin²). It would seem that *r* if sounded at the natural place, the top of the palate, would be less likely than *l* to be confused with a dental. But that the Italians had one *r*-sound (they may have had more than one) which was sounded close behind the upper teeth, and so was almost a dental, is shewn by the constant passage of *s* into *r*, of which we shall speak shortly, and by the change of *d* in Umbrian into a sound still more resembling *s*, which expressed in Roman characters appears as *rs*³. I consider these two changes then as entirely due to a weak pronunciation of *d*, by which that letter was sounded so near to the point at which *l* and weak *r* are produced, that they were substituted for it: there is no need to suppose an assimilation by other sounds.

3. Substitution for Spirants.

This, as has been often said, is the change which has affected the Greek language more than any other. No other

I. Greek substitutes for the spirants.

¹ Mommsen, *Corpus*, p. 43.

² See Quint. i. 6. 30.

³ Aufrecht and Kirchhoff, *Umbr. Sprachdenkmäler*, i. 84; and Corssen, i². 238—241.

letters have had so many substitutes or been so regularly allowed to drop: and there can be no doubt that the peculiar liquidity of the Greek—its constant accumulation of vowels without a consonant¹, is mainly due to the loss of these rather insignificant sounds. I shall consider their substitutes and their loss together, since the first pass naturally into the second, and cannot without inconvenience be taken separately.

(1) *Changes of Y in Greek.*
(i) $Y = \iota$.

(1) No trace is left of the symbol y in the earliest known period of Greek history. Instead we find ι , especially in the suffix yo , which forms so many both primary and secondary nouns in all the languages². Thus, when added immediately to the root it produces numerous adjectives, $\pi\acute{\alpha}γιος$ ($\pi\alpha\gamma\text{-}yo\text{-}$), and nouns, such as $\nu\acute{\iota}ος$ ($\sigma\upsilon\text{-}yo\text{-}$); sometimes with the ι displaced, as $\muοῖρα$ (i. e. $\muορ\text{-}ya$): added to bases it produces secondary nouns, such as $\text{ἀνδρῆ-}\iota\omicron\text{-}\varsigma$ ³, where however the double sound commonly passed into a monophthong, and $\epsilon\upsilon\sigma\acute{\epsilon}\betaεια$ from $\epsilon\upsilon\sigma\epsilon\beta\epsilon\sigma\text{-}ya$; the feminine perfect participles, as $\tau\epsilon\tau\upsilon\phi\upsilon\acute{\alpha}$ for $\tau\epsilon\tau\upsilon\phi\omicron\tau\text{-}ya$; and adjectives with the vowel again displaced, as $\mu\acute{\epsilon}\lambdaαινα$ for $\mu\epsilon\lambda\alpha\nu\text{-}ya$. In the comparative suffix ($yant$) the y has generally been lost by assimilation, but appears as ι in $\eta\delta\acute{\iota}\omega\nu$ and $\acute{\alpha}\mu\epsilon\acute{\iota}\omega\nu$ for $\acute{\alpha}\mu\epsilon\nu\text{-}y\omega\nu$. Another suffix of the same form occurs in many verbs; this takes the same form in Greek, namely $\iota\omega$ for yo , e. g. $\acute{\iota}\delta\acute{\iota}\omega$, and $\kappa\alpha\acute{\iota}\omega$ for $\kappa\alpha(F)\text{-}yo$, $\delta\alpha\acute{\iota}\omega$ for $\delta\alpha\text{-}yo$; and many times the vowel is thrown back, as $\alpha\acute{\iota}\rho\omega = \acute{\alpha}\rho\text{-}yo$, $\tau\epsilon\acute{\iota}\nu\omega = \tau\epsilon\nu\text{-}yo$ ⁴. In the suffix aya which, as I have already said, has given us the verbs in $\text{-}\acute{\alpha}\omega$, $\text{-}\epsilon\omega$, and $\text{-}\omicron\omega$, the spirant is lost altogether. It appears as ι in the old Ionic genitive-suffix, as $\acute{\iota}\pi\piοιο$ for $\acute{\iota}\pi\piο\text{-}σyo$. Next

¹ A tolerably striking example is the often quoted $\delta\eta\acute{\iota}\omega$, which was once $\delta\acute{\alpha}\sigma\text{-}yo\text{-}\sigmayo$. Four spirants have been resolved or vanished.

² See Schleicher, *Comp.* p. 388, &c.

³ Theok. xxviii. 10.

⁴ Curtius, *Temp. und modi*, 94.

original $y = \epsilon$, though much less frequently. This appears in (ii) $Y = \epsilon$. *κενεός*, the Epic and Doric form of *κεν-γο*, "empty," and similar forms, *στερεός*, &c. In the verbs *κυρέω*, *κτυπέω*, &c. which stand by *κύρω* and *ἔκτυπον*, the ϵ may stand for y , or the affix may have been $\epsilon(y)o$, (*αγα*), and the y altogether lost. The suffix of the future, *sgo*, was in Doric resolved into both *σιω* and *σεω*: the first is found in the severer Doric of Crete and Heraclea, e.g. *πραξίμεν* (Ahrens, II. 210); the second is seen in the contracted forms *πραξῶ* and *πραξοῦντι* (*id.* 217). At the beginning of a word y has remained as *h* in a few cases. These are the pronoun *ὅς* with its ablative *ὄς*¹; the Homeric *ὑσμίνη*, where the root is certainly the same as the Sanskrit *YUDH* (the θ passing into σ before μ), *ἦπαρ*, Latin *iecur*, Sanskrit *yakṛit*, and *ὑμέῃς*, where our "you" recalls the Sanskrit *yu-shmē*; and a few more². Sometimes not even the rough breathing remains, as in the Aeolic *ῥμμες* and *ῥττι* in Sappho³. Lastly, the spirant was also-^{(iii) Y = the rough breathing.} lutely lost within a word, in Attic especially, as in *κενός*, &c.; in the simple future *-σω*, where there is no contraction as in the Doric to mark the loss: in genetives like *ἦππου* and (Doric and Aeolic) *ἦππω* for *ἦππο-ο*: in the contracted verbs universally: and in some Doric and Aeolic words where the Attic has ι , as *ποέω*⁴, *χαλκέος*⁵, and Aeolic forms as *Ἀλκαος*⁶, *ἀλάθεα*⁷. Other different forms as ζ or even δ under which original y appears, are not substitutes but the result of assimilation or indistinctness of pronunciation.

Curtius suggests that this y must have had something of the guttural about it, as indeed we might have inferred from

¹ See p. 76.

² *Gr. Et.* 354, and Schleicher, *Comp.* 217.

³ *Frag.* I. 15.

⁴ As read in Theok. e.g. VIII. 18, &c. by Ahrens, from the best MS.

⁵ *Id.* II. 36.

⁶ *Alc. Frag.* 24 (9), in Ahrens, I. 245.

⁷ Theok. XXIX. 1.

its being sounded quite at the back of the palate, and therefore nearer to the gutturals than to any other sound which the Greek possesses. He argues from the Epic and Doric futures¹, where the ξ seems to be produced by the assimilating force of the σ, *κλαγ(α)σγω, κλαγ-σῶ, κλαξῶ*.

(2) *Changes of S.*
(i) *S = σ.*

(2) Original *s* retains its place in Greek generally at the end of roots and words. Thus it generally occurs in ΕΣ, FEΣ, ΗΣ, &c., except when the suffix which follows begins with a vowel or μ: as in *ἐστί, ἐσθής, ἦσται*, &c.; but *ἐ(σ)ύς, ἐ(σ)-ανός, ἡμένος*, &c.: and indeed the cases, where a vowel follows as well as precedes the σ, are more common than the others where it does not. But at the end of a suffix it is regularly kept—in formative suffixes, as -ες and -ος (*σαφές, ἔδος*, &c.), and in case-suffixes, as -ς of the nominative, -ος of the genitive: indeed ς is one of the few letters which the Greek could endure at the end of a word. At the beginning of a word it is sometimes found, as in *σάος (σῶς), σιγή, σελήνη*, &c., but only regularly so when a hard consonant follows immediately, as *σκάζω, στορ-έννυμι, στά-τος*, &c.: here the cognate hard protects it from the customary passage into

(ii) *S = rough breathing.*

the rough breathing. This is found constantly, as in *ἔδ-ος, ἔπω, ὕπνος, ὅς* (the pronoun of the third person, originally *sva*, not the relative *ya* which takes the same form in Greek); in all these the analogies of other languages shew that σ once began the word. The rough breathing of the Greek is sometimes due to a lost σ, which was not initial in the word: as *εἵστηκε* for *ἐ-σεστηκε*, through *ἐέστηκε*; perhaps also² *ἡμένος* mentioned above for *ἡσμένος, ἡμένος*: when the rough breathing had become regular in the forms where σ was dropped it would pass over even to the few where it was retained, as *ἦσται*, though etymologically it

¹ e.g. *κλαξῶ* in Theok. vi. 32, where however Ahrens deserts his MS. (K) and reads *κλασῶ*.

² Schleich. *Comp.* 219.

was wrong there: certainly the same root $\bar{A}S$, "to sit," in Sanskrit has no initial sibilant¹. With respect to S the Greek and Sanskrit usages are directly opposed. The Sanskrit retains it at the beginning of a word, but suffers it at the end of a word under certain conditions to pass into the Visarga or slightly heard final breath. Indeed in Sanskrit as in Latin the true h is the relic of an aspirate: in Greek it never appears but as the representative of a lost spirant. It must have been on the wane even when denoted by the symbol H , as is proved by its being sometimes omitted in old inscriptions²: and I agree with Prof. Curtius, that although the fact of its omission in the alphabet established at Athens at the end of the Peloponnesian war, cannot be taken to prove its absolute loss—we know it must have remained by its aspirating effect on consonants—yet it proves at least that it was verging to extinction: moreover the sound was probably growing rare when it was so often placed wrongly, as $\tilde{\eta}\pi\pi\omicron\varsigma$, $\tilde{\upsilon}\delta\omega\rho$, $\acute{\iota}\pi\acute{\alpha}$, &c.³, words which can be shewn from other languages to have originally begun with a smooth breathing: the same mistake occurred in Latin and for the same reason, e. g. when *umor*, *umerus*, &c. had h prefixed to them: the gradual loss of the h from some forms produced an uncertainty in its use, which caused its introduction into other forms where it had no business. The Athenians, as I have mentioned before, offended most in this respect: in Aeolic the loss of the h was so regular, that the tendency to introduce it wrongly never gained ground.

The loss of the rough breathing in Greek leads to much confusion. Thus it is difficult to distinguish in compounds the negative α from $\acute{\alpha}$ which came through $\acute{\alpha}$ from sa ,

¹ *Gr. Et.* 339. Prof. Curtius however rejects this explanation of a misplacement of sound (p. 618), preferring to suppose a more late mistake. No doubt such did occur, but when other causes can be given, these have surely the first claim to be regarded.

² *Gr. Et.* 612.

³ *Ib.* 618.

"with," except by the sense, e.g. in ἀδελφός, where we are guided to the derivation σα-δελφο-, born of the same womb, by the Sanskrit *sa-garbha*, which is perhaps the same word, though the change of *g* to *δ* is very difficult.

(iii) *S* is
lost.

Frequently there is no trace of the *σ* left at all. Its loss at the beginning of a word before a liquid or nasal, as (Σ)PT, (σ)νός, &c., will come under the general head of loss in consonantal groups. But the loss which has produced most effect on the language is its falling out between two vowels, in verbs as τύπτῃ from τύπτε(σ)αι, in nouns as γένους from γένε(σ)ος. To this very important rule there are hardly any exceptions; and these are principally where the loss of the *σ* would have caused great confusion. Thus if the *σ* had been allowed to fall out e.g. in τάσις (from τα-τι-ς) the result would have been the same as the dative of the article. Therefore in these derivative nouns, and in inflections like τίθησι and τίθεται, and in some few other cases the Greeks used sufficient effort to retain the spirant. The contractions resulting from its regular and constant loss have been described systematically under the diphthongs.

(3) *Changes
of v.*

(i) *V* = *F*.

(3) The remaining spirant *v* was known to the Greeks later than *y* by a distinct symbol, the Digamma, as it was called from its form. This *F*, as is well-known, is found on old Aeolic and Doric inscriptions, and unmistakeable traces of its presence (as well as of the other semivowel) are to be found in Homer; not indeed with perfect regularity: sometimes e.g. we find ἰδεῖν and sometimes *F*ιδεῖν¹; this is quite natural at a time when a sound was dying out: the wonder would rather be if it occurred regularly. There seems to be no reason to suppose (what is possible on pho-

¹ Thus in *Iliad* i. 203, we read

ἦ ἴα ὕβριν ἴθις Ἀγαμέμνονος Ἀτρεΐδου;

but in line 262

οὐ γὰρ πω τοιοῦτος ἴδον ἀνέρας, οὐδέ *F*ιδωμαι.

netic grounds) that either of the other spirants *y* or *v* passed into *F* before they disappeared. *F* is the representative of original *v*, and of that only, in spite of one or two mistakes in inscriptions, natural at a time when the *v*-sound had become almost as strange as *y*, but the symbol *F* was still remembered¹. That the sound was the same as that of the English *w*, not *v*, is most probable from the easy transition of the semivowel to the vowel, and *vice versa*.

Examples of the symbol *F* in Aeolic and Doric are to be found in Ahrens². Thus we have *Fot* in Sappho II. 1 and *Felπην* (i.e. *εἰπεῖν*), *id.* XXVI. 2; though here, as well as in Homer, it was often omitted; e.g. *φάεινόν εἶδος* (Sappho III. 2), though *VID* probably retained the *v*-sound at least as long as any other word. In spite indeed of the term "Aeolic digamma," used by grammarians, the evidence of the surviving fragments would seem to shew that the Aeolic commonly changed *v* to *u*, or hardened it (by dissimilation generally) to *β*; it was retained however more regularly by the Boeotian variety of the Aeolic, which resembled the Doric more than any other³. In Doric we have the evidence of numerous glosses of Hesychius⁴, where indeed the symbol used is *Γ*, but where it is absolutely certain that the *F* must be replaced, the mistake being that of the copyist: it is inconceivable that *γ*, which has no connection with *v*, should be found in so many words, where traces of *v* are found in other dialects. Also *F* occurs in tolerable frequency in inscriptions of the old Doric; e.g. in words like *κλέFος*, *αἰFελ* (compare *aevom*), &c. But even from these it is clear that the letter was rapidly passing out of common use.

It is resolved into *v* in *δύο* certainly in common Greek; (ii) *V=v*.

¹ See *Gr. Et.* 354.

² *Dial. Graec.* i. 30, &c.; II. 42, &c.

³ See numerous examples from inscriptions in Ahrens, I. 169, &c.

⁴ *Id.* II. 53, &c.

and in Aeolic we have forms like $\chi\acute{\epsilon}\omega$ for $\chi\epsilon\text{F}\omega$, $\pi\acute{\nu}\epsilon\omega$ for $\pi\nu\text{F}\omega$, where the letter is entirely lost in Attic Greek. In all these the ν is the radical vowel, intensified in the present-stem; but it must have taken the w -sound (that is, F) before the vowel ω : which was then written as ν by the Aeolic when they lost the symbol F. The ν is also found in the Ionic $\gamma\omicron\nu\nu\acute{o}\varsigma$, the genitive of $\gamma\acute{o}\nu\upsilon$ instead of $\gamma\omicron\nu\text{F}\acute{\epsilon}\varsigma$ ¹: in $\mu\omicron\upsilon\nu\omicron\varsigma$ for $\mu\omicron\nu\text{-}\nu\omicron\varsigma$, &c.

(iii) $V =$
rough
breathing.

It appears as the rough breathing at the beginning of a word; so that all the spirants in Greek can be resolved into h . This is best seen by comparison with the Latin: $\acute{\epsilon}\sigma\pi\epsilon\rho\omicron\varsigma = uesper$; $\acute{\epsilon}\nu\nu\upsilon\mu\iota$ has the same root as $ues-tis$. The rough breathing thus produced is liable to the same affections as that which represents σ ; thus we have $\acute{\epsilon}\sigma\theta\eta\varsigma$: $\acute{\iota}\sigma\tau\omicron\rho$ (whence $\acute{\iota}\sigma\tau\omicron\rho\acute{\iota}\alpha$) came to have the smooth breathing in time, as the verb ($\acute{\iota}\delta\mu\epsilon\nu$) seems very early to have had.

Sporadic
substitutes
of v .

(iv) $V = \beta$.

These are the regular substitutes for v , found to some extent in all dialects. But there are others very difficult to explain, which occur sporadically, or in one dialect only. Thus in the Laconian v appears commonly hardened to β ; e.g. as in $\beta\acute{\epsilon}\rho\gamma\omicron\nu$ (where the original v is shewn by our "work"), in $\beta\acute{\epsilon}\tau\omicron\varsigma$ for $\acute{\epsilon}\tau\omicron\varsigma$ (Latin *vetus*, originally a "year," whence the adjective *veternus*, as *diurnus* from *dies*), and many others. And one example common to all Greek is given by the common verb $\beta\omicron\upsilon\lambda\omicron\mu\alpha\iota$, which is the Ionic form of $\beta\omicron\lambda\text{-}\gamma\omicron\text{-}\mu\alpha\iota$, Aeolic $\beta\acute{o}\lambda\lambda\omicron\mu\alpha\iota$, and severe Doric $\beta\acute{w}\lambda\omicron\mu\alpha\iota$. That the original consonant was v seems clear from Sanskrit *vri* (VAR), Latin *uolo*, Gothic *vil-jan*, and Slav. *vol-it-i*²: it is scarcely to be supposed that all the other languages agreed to weaken a sound preserved only by the Greek. This β then, like the Laconian varieties given above, must be regarded as a strengthening, though there is no apparent

¹ Comp. 222.

² Gr. Et. 483.

reason for it. *V* sometimes passed into β before ρ or λ in the Aeolic, as we shall see hereafter; but here the reason is obvious, the influence of the following sound: but no such cause can be assigned for these initial changes. Was the Laconian β an exceptionally weak sound, itself hardly stronger than *v*? I think this possible, though I cannot prove it. Curtius thinks¹ that *o* and *v* may have had a dissimilating effect on the \mathbf{F} , just as we saw in Latin that *vu* was regularly avoided; and Curtius thinks that *ferb-ui* from *ferv-* and *bub-ile* from *bov-* are due to this principle². So perhaps the β in $\beta\acute{o}\upsilon\lambda\omicron\mu\alpha\iota$ may be due to the combined influence of *o* and λ : but this principle will not explain the Laconian words where *o* does not occur more than any other vowel.

Another variation of *v* into μ has been often assumed, (*v*) $\mathbf{V} = \mu$, and is fully investigated by Curtius³. I cannot here follow him in his examination of every word in which the change is possible: he allows it for about half-a-dozen; in others he thinks that a different relationship is more probable. With his main result I agree; that the change is probable for an exceedingly small list of words, scarcely more than those in which μ passes in obscure dialects into β . He allows the change for $\mu\acute{\alpha}\lambda\epsilon\upsilon\rho\omicron\nu$ ⁴ from $\mathbf{F}\alpha\lambda$, whence $\acute{\alpha}\lambda\acute{\epsilon}\omega$, to grind corn. Max Müller⁵ thinks that here and in some other words initial μ has been dropped, and refers $\acute{\alpha}\lambda\epsilon\upsilon\rho\omicron\nu$ to \mathbf{MAR} , whence Latin *mola*, &c. Curtius denies the loss of initial μ , as also the transition from μ , a common and easy sound, to *v*, a sound for which the Greeks had no liking, and which was becoming very uncommon. This argument, I think, is strong; and it will account for the change of \mathbf{F} to μ , although to us the

¹ *Ib.* 515.

² See however Corssen, *Krit. Beitr.* 165, and Schleicher, 255.

³ pp. 520—526.

⁴ Theok. xv. 116.

⁵ *II.* 323.

latter may seem the harder sound. The two are pronounced so closely together that in chance cases the Greeks, wishing to avoid *v*, might easily slip into *μ*. Other words, in which Curtius allows the change, are *μαλλός* (Latin *willus*), *μέλδομαι* by *ἔλδομαι* or *ἐέλδομαι* (where again the *μ* may have been lost), *μάρπτω* by Sanskrit *VARṬ*, *μολπίς* by *ἐλπίς* (a dialectical variety in Hesychius), and *ἀμφήν* by *αἰχήν*. It is commonly assumed in *μόσχος* by *δσχος* and *μηρίω*¹ by *ἐρίω*. It will be seen that in all these cases there is much uncertainty. I may mention here the pretty certain change of *aF(ι)-vos*—from *avi*, Greek *ὄφι*—into *ἀμνός*, though this is not substitution, but arises from the influence of the *v*.

The change of *F* into *γ* is more strange. It occurs in no common word, but is supported by some rare dialectical forms, which need not here detain us².

I have thus shewn the different simple sounds to which the spirants sank in Greek, and how they sometimes passed out leaving no mark at all. Further changes worked by them will be found under the head of Assimilation, and still more when we come to treat of indistinct articulation.

II. Substitutes for the spirants in Latin.

The spirants in Latin have been also very considerably affected; but not in any way which so profoundly influenced the character of the language as the changes above-mentioned modified the Greek. The Latin had indeed no special symbols for *y* and *v*; but the sounds were denoted pretty regularly by *i* and *u*; they had not nearly so many substitutes as we saw in the Greek.

(i) *Changes of Y.*
(ii) *Y=i.*

(1) First, *y* had its full sound preserved by *i* at the beginning of words, as *iug-um*, *ius*, &c.; and between two vowels, as *plebeius*, *aio*, *cuius*, &c.³ After consonants the *i* might be either the vowel, or it might still have the semi-

¹ Theok. i. 29.

² See *Gr. Et.* 527.

³ *Comp.* 252.

vowel sound; e.g. *princip-ium*¹, *conubium*², &c. It is frequently lost altogether, e.g. in the verbs of the first and second conjugation, where the *a-o* and *e-o* represent the Indo-European and Sanskrit *aya*; the original *a* being split up as in Greek: it is dropped in *ob(y)icio* and *ob(y)ex*, and other compounds of *iacio*: rarely in comparatives, as *min-(i)or*; in *ero*, which stands for *es-yō*. These examples are given by Schleicher³. From them it is clear that the semi-vowel sound was in the main preserved by the Italians, only with no symbol to distinguish it from the cognate vowel.

(2) *S*, unlike the Greek *σ*, is retained regularly before a vowel, and sometimes before consonants at the beginning of a word; but frequently lost at the end, at least in the common pronunciation, and in the older poetry; but replaced through the influence of the Greek rules, in the nominatives of nouns of the O-declension, as *bono-s*, not in those of the A-declension, as *advena(s)*, nor in the genetives of the A-, O-, or E-stems. Examples are given in plenty by Corssen⁴ from inscriptions of the age of the Second Punic War, of nominatives where the *s* was not written: but it reappears regularly at the end of the second century B.C.: by the beginning of the fourth century A.D., final *s* was again entirely lost⁵. *S* would seem in Latin to have been sounded strongly when initial, and generally before or after consonants: but weakly between two vowels, and after *n*, which was itself weakly pronounced before *s*, and often entirely vanished⁶; so that *s* was really in the same position

¹ Hor. Od. iii. 6. 6.

² Lucr. iii. 776, and Munro's notes: I think the evidence is in favour of the long *u* in the Augustan age.

³ Comp. 252. Corssen (Krit. Beitr. 498) would derive *-dum* and *-dem* from *dyam*, i.e. *divam*.

⁴ 1^o. 286.

⁵ Id. 1^o. 294.

⁶ e.g. *cosol* for *consul*, on the tomb of Scipio Barbatus, *formo(n)us*, &c. See p. 81.

as if a vowel had immediately preceded it. This view might seem to be contradicted by the fact that there is often a wavering between *s* and *ss*, e.g. *causa* and *caussa*, *usus* and *ussus*: and similar waverings have been already cited as evidence of a strong sound. But here *ss* would seem to be in general etymologically correct, the first *s* being commonly the result of assibilation of the final letter of the root; then the customary weak pronunciation of *s* so placed caused the loss of one of the two. There is good evidence for the use of *ss* down to a late period in the best MSS. of Virgil and Quintilian's express statement¹ as to the usage of Cicero.

(ii) *S=r*.

This weak pronunciation of *s* between two vowels led naturally to the substitution for it of the weaker *r*. Thus we find *Lares* instead of the *Lases* of the Carmen Arvale, *ara* instead of *asa* which is found in every other Italian dialect²; *quaero* is the younger form of *quæso*; the genetives *arboris*, *muris*, &c., are from bases *arbos*, *mus*, &c., which in later times sometimes allowed even the *s* which marked the nominative case to sink to *r*, as *arbor*: in the genetives plural *r* is the substitute for the old *s* which in Greek fell out altogether; compare *dearum* for *deāsām* with *θεά(σ)ων θεῶν*³: *plurimus* is the *plus-imus* of the Carmen Saliare. This change of *s* to *r* is also found before *n* and *m*; thus *verna* is *vesna*⁴, *vaternus* in *vetus-nus*, the *e* being due to the following *r*: and *carmen* is most probably *cas-men*⁵, in spite of the Greek *ποίημα* which would lead us to derive *carmen* from KAR "to make" which is undoubtedly found in *cre-are*: but we have *Casmenae* the Latin Muses, which would be inexplicable except from *KAS*, the Sanskrit *çāms*, "to say" or "praise." Lastly *s* sinks to *r* at the end of a word after a vowel, as in *amor*, and *arbor* just men-

¹ I. 7. 20.

² Corssen, r². 229.

³ I do not mean that *θεός* is the same word as *deus*, see p. 24.

⁴ See p. 77.

⁵ *Krit. Beitr.* 406.

tioned. According to Cicero, Papirius Crassus (consul 336), was the last of his race who was called by the old name Papisius: without pressing this statement too far, we may fairly conclude that the change was growing general about that time.

Closely connected with this weakening of *s* is the appearance of *z* under the same circumstances both in Oscan and ^{Old Latin and Italian} *z*. in Umbrian. From *menzaru* (i.e. *mensarum*) and *horz* (i.e. *hortus*) we may safely infer that the other Italian dialects possessed a distinct symbol to denote the weak *s* (our English *z* in *zed* and French *z*) which had died out in Latin soon after the time of the XII Tables. The loss was a real one, for the hard and soft *s* are very distinct sounds: they are given by our "rice" and "to rise¹." *Z* does not reappear at Rome till the common introduction of Greek words: when it was again used, but to represent ζ, a very different sound. When it appears in Plautine manuscripts it is through a confusion with the later *z*: for the Romans of Plautus' time undoubtedly represented *z* by *s* or *ss* according as it was initial or medial: *sona*² (ζώνη) or *badisso*³.

Sometimes, though only irregularly, *s* vanishes altogether ^{(iii) *S* is lost.} between two vowels, just as it did in the Greek. Thus we have *uim* which must be for *uisim* from *uis*, for *uires* stands for *uis-es*. *Vēr* for *ueser* (Fé(σ)ap) has been already mentioned. Similarly the *s* is lost in genetives like *die(s)i*, whence eventually *die*, *plebe(s)i*, &c.⁴

(3) Finally *v* in Latin has much the same history as *y*. ^{(3) Change of *V*.} It is represented by *u*, e.g. in *uideo*, *uouos*, *ouis*. ^{(i) *V* = *u*.} Sometimes this *u* is simply the vowel, as in *ecus* (*equos*), *relicuos*⁵, ^{(ii) *V* is lost.} &c. Not unfrequently it fell out, like *y*: e.g. in *s(u)ibi*

¹ Max Müller, II. 133.

² So *Trin.* 862, ed. Brix: sector sonarius, i.e. a cut-purse.

³ See Corssen, I². 295.

⁴ *Krit. Beitr.* 465.

⁵ e.g. in *Lucr.* I. 560. Perhaps the length of the first syllable may mark an assimilated *d*, *red-licuos*: cf. *sella* for *sed-la*.

and *t(u)ibi*, the roots being *sva* and *tva*; in *de(v)os*, *so(v)os*, &c. : in verbs like *fluont* from *FLUV*, and especially in the perfects, &c., formed with suffix *-ri*, e.g. *no(ue)runt*, *no(ue)ram*, &c. Further examples, if required, will be found in the *Compendium*¹.

V not = *m*. The supposed change of *v* into *m* in *mare*, compared with Sanskrit *vāri*, "water," is rejected by Corssen² rightly, I think. He shews that the root *var* is preserved in Italian river names as *Varusa*, *Varranus*, &c., so that *mare* more probably belongs to *MAR* in the sense of "the waste." The first derivation may seem better as regards sense, but must be rejected as sinning against the laws of sound: the second need not be accepted, or only provisionally till another is discovered which satisfies the sense better, and is equally possible phonetically.

4. *Changes of the Aspirates in Latin.*

Lastly, I shall take under the head of Substitution the numerous changes of the aspirates in Latin. Some indeed of them seem to be due to *Loss*: others, if Corssen's explanation of them be true, should rather come under the head of indistinct articulation. But since neither of these causes can be certainly made out, and since if divided the history of the aspirates would be less intelligible, I have thought it better to put the whole of the changes together under the simplest head: at least one sound has been substituted for another.

The Latin aspirate f.

The most remarkable point in the history of the aspirates in Latin is that each of them can be represented by one symbol, the peculiar Italian *f*. That this *f* is no aspirate is obvious, if only from the fact that it has not the power of the Latin momentary sounds to assimilate a nasal

¹ pp. 253, 254.

² *Krit. Beitr.* 237.

which precedes it: we have *im-petus* for example, but only *inficio*¹: this shews that the *f* is quite different from the Greek ϕ , which has the assimilating power, as in $\epsilon\mu\phi\alpha\acute{\iota}\nu\omega$ ². For the difference of sound between these two, we have Priscian's well-known dictum: that *ph* is produced "fixis labris," but *f* not. I think this must mean that *ph* is a momentary sound: *f* is a protracted one. It is the hard spirant of the labial class; *v* is the weak spirant of the same class. Corssen indeed objects to the term "spirant" being applied to it: and will have it to be nothing less than "a toneless (i.e. hard) labiodental fricative sound (Reibélaut) with a strong breath³." We shall be better able to decide upon its nature when we have seen its use.

It regularly occurs as the representative of initial BH. *F* represents original BH and DH at the beginning of a word: This we should expect from its labial character. Thus we have *fari* from BHA, whence Greek $\phi\acute{\alpha}\nu\alpha\iota$; *fui* from BHU; *fugio* from BHUG, &c. But it is hardly less frequently found as the representative of initial DH. That aspirate has left no Latin exponent of its own kind, at once dental and aspirate, or even a dental spirant: *f* has taken the place. Thus *fumus* is the Latin derivative of DHU the same in form as $\theta\upsilon\mu\acute{o}s$, and Sanskrit *dhūma*; *fores* represents *dvāra* (Sk.) and $\theta\acute{\upsilon}\rho\alpha$: *firmus* is from DHAR "to hold firmly;" a root which gives an extraordinary number of derivatives in Latin⁴, including *formido* "stiffening fear," *forma*, *forum*, and many names of "strongholds," as *Formiæ*, *Ferentinum*, *Forentum* and *Ferentia*: many more examples are given by Corssen. Both the labial and dental aspirate are regularly represented at the beginning of a word by *f*.

But there are even cases where initial *f* represents GH. *sometimes even GH.*

¹ Corssen however (i². 188) quotes some examples from the *Corpus*, as *com-fluunt*, *im fronte*. But these are certainly exceptional.

² See Curtius in the *Zeitschrift*, II. 333.

³ i². 178.

⁴ Corssen, i². 148.

Such are *fel* which seems undoubtedly to be the same as *χολή* our "gall," that is from original *ghal*; the verbs quoted by Priscian and Festus, *futire* and *future*, with *futiles* are from the root *FU* the same as *XT* in *χέω*; *formus* and *feruor* stand by Sanskrit *gharma* our "warm," while the Greek shews a change from the guttural to the dental in *θερμός*. Commonly however there is another form beginning with *h*, existing side by side with that in *f*, and used by educated men¹; we have *faedus*, but classical *haedus*, our "goat," where the Teutonic has kept the *g* of the original *GH*: *fordeum* and *hordeum*; *fariolus* and *hariolus*, Greek *χορδή*, &c. This *f* for *gh* is only initial.

*In Latin
the h was
commonly
dropped in
the middle
of a word.*

If we continue our search, we shall find that this *f* does not occur much in the middle of Latin words. We have *scrofa* the pig, conceived as the "grubber," by the side of *scrob-s*², and probably *scrib-ere*. But as a rule we shall find that *BH* has generally under these circumstances passed into *b*: e.g. *ambo*, *tibi*, *lubet*³, *nubes*⁴, &c., with others given by Schleicher (*Comp.* 249). But it is an instructive fact that by the side of the Latin *b* there is found *f* in the other Italian dialects. Thus *Safinus* is the Oscan for *Sabinus*; the proper names *Alfius* and *Alfenus* should be compared with the Latin *Albius* and *Albinus*: *Orfius* with Latin *orbis*, &c.⁵ The same *mutatis mutandis* applies to *DH*: this is *d* in Latin *medius* (*madh-ya*), in *aedes*⁶, in *dedo*, *condo*, &c., from *DHA* "to place," &c.: but the Oscan for "middle" is *mesia*; and the Oscan *Rufum*, with the proper names *Rufus*, *Rufinus*⁷, &c., seem to shew that *rufus* "red" was borrowed by the Romans, their own word being *ruber*. The root from which the two forms came is certainly *RUDH*, the

¹ *Krit. Beitr.* 212, &c.

² Corssen, i². 146.

³ See p. 85.

⁴ See p. 65.

⁵ Corssen, i². 147.

⁶ See p. 120.

⁷ Corssen, i². 151.

Sanskrit *rudhira*, Greek *ῥ-ρυθ-ρός*, our "red:" *ruber* therefore shews us that in Latin *b* can represent medial DH; as we see also from *uber* (*οὔθαρ*, "udder")—but *Ufens*, *Aufidus*, in different parts of Italy; from *verbum* a "word," and *barba* a "beard:" in these last two words the traces of original DH are preserved by the Teutonic languages with great fidelity, and by them only.

It is clear then that both DH and BH were regularly represented in Italy by *f*: though the Latin alone preferred the more distinct *d* and *b* within a word. At an early period the DH must have passed into *bh* in Italy: so that from original *rudhra* came the old Italian *rubhro* which then split into Italian *rufro* and Latin *rubro* just on the same analogy (as Curtius points out¹) as old Italian *tibhi* (where BH is original, compare Sanskrit *tubhyam*) split into Umbrian *tefe*, Latin *tibi*. This weakening of *dh* to *bh* is neither impossible nor unnatural: we have already seen how inexactly *d* was sounded in Latin, so that it could pass into both *l* and *r*. But I think we may believe that the breath at the end of each aspirate was somewhat strongly sounded in Latin, so that the distinction between the *b* and the *d* was not appreciable, and therefore they sank to the same spirant *f*. This view appears to me to be supported by the fact that *f* from *bh* sometimes passes into *h*: as in *harena* for the old Italian and Sabine *fas-ena*: *haba* exists by the side of *faba*: *herba* is most likely from *BHAR*, compare *φορβή*²; and *mihi* undoubtedly stands for *mibhi*, the loss of the *b* being possibly due, as Curtius suggests, to the dissimilating influence of the labial *m*. Now there are tolerable indications that *h* was a strong sound in the old Latin: although in the Augustan age no doubt it had grown weak³, and was constantly dropped, as in (*h*)*anser*, (*h*)*olus*, &c. But the strength of the breath in former times, when the changes between different

¹ *Zeitsch.* II. 334.² Corssen, I². 102.³ *Id.* I². 106, &c.

classes took place, would be a good reason for the change between strong *h* and *f* with a strong breathing. And the same conclusion may be drawn from the occasional substitution of *f* for GH mentioned above. I pass now to the more regular changes of GH, to complete the history of the aspirates.

*Changes of
GH.*

GH is generally represented by *g* when not initial. Thus *ang-or* is from AGH, whence *ἄχος*, &c.; *lig-urio* is from LIGH (*λεῖχον*), &c.¹; when it stands at the beginning of a word as in *gramen*, *granum*, *grando*, &c., it seems to be generally followed by *r*, which absorbed the breath but left the *g*². Initial GH is regularly represented by *h*; as *hiemps* (GHI, whence *χιών*, &c.), *heri* (Sanskrit *hyas* for *ghyas*, Greek *χθες* where the *θ* is peculiar³) *hostis* (from GHAS, whence our "guest:" *hospes* may not improbably be the "protector of strangers," *ghas-pati* from PA: *gospoda* is a "host" in Polish⁴), and many others: *h* is even found at the end of a root in VEH and TRAH: I have already said⁵ that the *h* here must have been strongly guttural, or it could not have changed to *c* in *uec-tum*, *trac-si*. These, with the irregular initial *f*, are the substitutes of GH.

The aspirates when initial pass into breaths, when medial into soft letters.

From these facts we see that the aspirates, when medial, are regularly represented by the corresponding unaspirated softs in Latin (though not in common Italian); when initial they are represented by a sound which was originally no doubt a weak aspirate, but was probably at an early time no more than a spirant or breathing: nay more, the one single sound *f* can stand for all the original aspirates, probably as I have suggested from this being pronounced with a strong breath, which neutralised the distinction of class. This variation has nothing in it contrary to the usual character of phonetic change.

¹ *Comp.* 245.

² See Grassmann, *Zeitsch.* XII. 89, &c.

³ See *Gr. Et.* 438.

⁴ Benfey, *Gr. Wurz. Lexicon*, II. 210.

⁵ p. 60.

Corssen suggests¹ that it may have been caused by an "irrational" *u* springing up after the letter, so that *gh* and *dh* should become respectively *ghŭ* and *dhŭ*, then both turn to *fŭ* and so to *f*. This is very possible: and is supported at least for *gh* by the forms *anguis* (originally *aghi-s*) and *brevis*, i. e. *breghu-is*; also by the analogous springing up of *u* after *g*, as *ting-u-o*, *ning-u-o*. But how are we to account for the appearance of *g*, *d*, and *b*? These are stronger forms than *gh*, *dh*, *bh*: and yet there is no apparent reason for any strengthening.

I suggest the following explanation. We have seen that the Graeco-Italians brought with them into Europe the aspirates *gh*, *dh*, *bh*: sounds which have been explained as soft letters followed by a breath. Such pronunciation is said to be retained in India. But it does not seem to have suited any European nation. Among the Graeco-Italians the breath appears to me to have changed into the spiritus asper; whatever the difference in sound between the original breath and the spiritus asper was originally, it must have been very slight, consequently the change could not be difficult. Such a change seems to me to explain the subsequent history of the aspirates in Greek and Latin. The aspirate had become really a double sound: and the two component parts acted upon each other. In Greek (as we shall see) the second part assimilated the first. In Latin one part drove the other out and so caused loss: at the beginning of a word the first part fell away (conformably to the regular Latin usage, as we shall see hereafter), wholly in *gh*, perhaps with some slight remnant of sound in *bh*, both when original, and when it represented *dh*: when the aspirate was not initial, Italian usage differed; the Latins preferred to retain the first part, though even among them *f* is sometimes found: the rest of Italy kept the *f* here also.

Explanation of the appearance of the soft letters.

¹ 1^a. 160.

I may add that the difference in the Greek and the Italian methods is quite in accordance with the usual treatment of compound sounds in the two languages.

Corssen¹ regards the Latin *b* as produced from the Italian *f*: of *g* he gives, I think, no other explanation than that it is "aus *gh* verschoben". No doubt we might have expected to find *f* universal throughout Italy; but we do not so find it, unless we agree with Corssen that Latin *b* comes through the middle step *f*: and apparently to explain the strengthening, he suggests that this *b* is here a weaker sound, more like the Greek β . But where is there any proof of this? He has himself shewn elsewhere that Latin *b* is the "ordinary labial media". Surely it is at least equally permissible to regard the Latin *b* as a dialectical variation, dating from the earliest times. Indeed I am entirely unable to enter into Corssen's view of the origin of the *f*. He believes² that the Italians did not bring *bh* with them into the peninsula. Then they must have brought *f*. But whence did they bring it? The Greeks have no such sound: it must have been developed after the separation of the two races, and therefore presumably in Italy. Corssen argues that there is no trace of *bh* in Italy at all. But according to my view, *b* is a distinct trace of it. Secondly, he says, that no European nation had kept the *bh*. But the Greeks must have done so; else where did they get their ϕ ? Whatever may be the reason of the hard aspirates in Greek, there can be no doubt that they were derived in some way from the soft aspirates. Lastly, if the Italians did not bring *bh* with them, why did they bring *gh*? This Corssen probably admits to be Italian, for he does not derive *g* from *h*. But surely *gh* and *bh* stand or fall together³.

¹ *l.* 140.² *Id.* *l.* 91.³ *l.* 171.⁴ *l.* 126.⁵ *l.* 140.

⁶ In the same page where Corssen denies the existence of *bh* in Italy, he makes the strange statement that the Zend alone of all the Indo-Germanic

Thus, then, the forms under which the aspirates in the middle of a word are represented in Latin, result partly from Loss, if my view be correct, or from irregular Substitution according to Corssen: the initial forms are probably produced by indistinct articulation. But, as I said above, since the reason for the changes cannot be certainly assigned, I have preferred to consider them under the most general head.

languages has preserved the *bh*. He here most unaccountably overlooks the Sanskrit; and the Zend (at least according to Schleicher's *Compendium*) has *not* preserved the *bh*, which it represents by *b* and *w*. These can of course only be oversights, but they are strange ones. The passage is now in the second enlarged edition.

LECTURE XII.

CONSONANTAL CHANGE (*continued*).

II. Loss.

1. *Loss of Aspiration in Greek.*

THIS subject may be taken first under the head of Loss, since the result is the same as that which we have been discussing in the last lecture—the loss of the breathing which is the second component of the aspirates. But this result is much less frequent in Greek than in Latin. Loss of the *h* is not the common end of the Greek aspirates; it occurs in very few certain cases, which are thoroughly examined by Curtius¹. But the principle seems to me the same as that which operates regularly in Latin in the middle of a word; though its action in the Greek is only irregular.

Loss of the breathing is generally assumed in γένος, ἐγώ and μέγας: the corresponding consonant in Sanskrit in all these is *h* for *gh*: so that GH would seem to be the original letter, did not the Gothic shew us *kinnus*, *ik*, and *mikils* (Scotch “mickle”): and the *k* here points to *g* as the original, and to *gh* as being a Sanskrit weakening. Cases in

¹ *Gr. Et.* 458—467.

which BH has turned to β under the influence of a preceding nasal are rather the results of assimilation: e.g. $\theta\acute{\alpha}\mu\beta\omicron\varsigma$ (ΤΑΦ), $\delta\mu\beta\rho\omicron\varsigma$ (Sanskrit *abhra*); they are few in all. It seems to me that the undoubted cases of pure loss are confined to the hard aspirates which, as we have already seen, are peculiarly Greek developments, where the second part, the spiritus asper, was likely enough to drop off and be lost. Thus we have the roots OPTX, KPTΦ, &c. (as seen in $\delta\rho\acute{\upsilon}\sigma\sigma\omega$, $\kappa\rho\acute{\upsilon}\phi\alpha$), but $\delta\rho\nu\gamma\acute{\eta}$ and $\kappa\rho\acute{\upsilon}\pi\tau\omega$ ¹: we have ΑΛΘ but $\alpha\lambda\delta\alpha\acute{\iota}\omega$; ΕΛΤΘ but $\epsilon\pi\acute{\eta}\lambda\upsilon\delta$ -; $\beta\rho\acute{\epsilon}\mu\epsilon\iota\nu$ by the side of *fremere*, and not impossibly $\phi\acute{o}\rho\mu\upsilon\gamma\epsilon$: $\lambda\alpha\mu\beta\acute{\alpha}\nu\epsilon\iota\nu$ but $\lambda\acute{\alpha}\phi\upsilon\rho\omicron\nu$ and $\alpha\mu\phi\iota\text{-}\lambda\alpha\phi\text{-}\acute{\eta}\varsigma$; here also the Sanskrit has LABH. Why this tendency to drop the rough breathing should act just on these few words and not on others we cannot explain: all sporadic change is capricious; we can do no more than assign a plausible cause for it; perhaps here the rolling sound of ρ and λ (one of which occurs in all the words) may have been strong enough to cause the rough breathing to be felt not necessary though optional; just as we saw in the last lecture (p. 244) that *h* was dropped from an original aspirate followed by *r* in *gramen*, &c. in Latin.

Curtius remarks² that this change in Greek was not likely to be frequent; the tendency in Greek lies the other way, as we shall hereafter see. To this opposite tendency, he adds, are due the forms $\delta\acute{\epsilon}\chi\omicron\mu\alpha\iota$, $\tau\acute{\epsilon}\iota\chi\omega$, &c. by the side of $\delta\acute{\epsilon}\kappa\omicron\mu\alpha\iota$, $\tau\acute{\iota}\kappa\text{-}\omicron\varsigma$; $\alpha\acute{\iota}\theta\iota\varsigma$ from the Homeric $\alpha\acute{\iota}\tau\iota\varsigma$, &c.; in all these cases the Ionic has kept the original form, not weakened a stronger one. But there is certainly weakening in cases like the Ionic $\acute{\alpha}\pi' \omicron\upsilon$: not of course in the preposition but in the pronoun, which loses its rough breathing in pronunciation to suit the Ionic love of soft sounds, though the symbol was retained in writing, to avoid confusion.

¹ Gr. Et. 463.² Ib. 458.

2. *Loss of one or more out of a group of Consonants.*

*Possible
origin of
these
groups.*

This is, perhaps, the most natural form of loss. Heavy masses of consonants become unendurable in all languages, though all do not deal with them in the same way. It is true that they often seem to be radical; and therefore it might be argued that what our fathers could endure might have been endured by their children. But in reply to this I may say, that in roots which contain groups of consonants, e.g. STA or SRU, it is very probable we have not reached to the ultimate simplest form. Ultimate it is to our analysis however, and will probably remain so. I know that some philologists contend that all roots originally consisted of a single consonant and vowel, or even of a single vowel. This is very possible, but if we attempt to cut down the roots into simpler forms to suit this theory, we are simply engaging in a task for which we have no sufficient data, no guide but the analogy of actually occurring simple forms, to which we endeavour to make our more complete roots correspond. On the other hand though in most cases we cannot discover what these simplest forms actually were, this is no reason for concluding that there were no simpler forms. Analogy is deceptive if we attempt to analyse; but the fact that we can, with tolerable certainty, resolve some compound roots into simpler forms¹, is an indication that such simpler forms may exist for others, though we cannot discover them. Thus it is possible that SRU may have been at an earlier time SAR-U², the U being a formative suffix: then the A may have fallen out, leaving SRU, a sound convenient to Hindus, Lithuanians, and Germans, but inconvenient to Graeco-Italians, as we shall see. But such a simpler form though

¹ See, for example pp. 40—42.

² For SAR, see p. 84.

possible is quite uncertain; I only give it to shew that such heavy consonantal roots may themselves have been the result of phonetic change acting in times far beyond our small range of vision.

Sometimes these consonant-groups were certainly not radical but caused by combining roots and suffixes; sometimes even by the involuntary springing out of a parasitic sound after the original consonant. But however they were produced, they were governed by the same laws. I shall therefore not dwell on their origin here, leaving the account of parasitic sounds to a later lecture. I shall consider the loss under three heads; initial, medial, and final. It is never very common in the Greek, because, as I have already said, the Greeks preferred where possible to assimilate one sound to the other. In Latin it is always common; but, as might be expected, generally sporadic.

In Greek no consonants seem to be lost at the beginning i. *Initial loss: principally of s and v both in Greek and Latin.* of a word except the spirants *s* and *v*; and even these fall out generally before a protracted, rarely before a momentary sound. Thus *s* is lost in *ρῡ* for *σρῡ*, *νῡ-ός* for *σνῡός* (page 69, where it was suggested that the oldest form was *sunuso*), *μέριμνα* (Sanskrit *SMAR*), &c. This loss is rare before *κ* or *π*, and even then traces are left of the fuller sound; thus we have both *σκάπτω* and *κάπετος*, *σπέλεθος* and *πέλεθος*: it is rather commoner before *τ*, as *ταῦρος* (by the German *stier*), *στέγος*, and *τέγος*, &c. These changes it will be observed are Graeco-Italian, and may very likely have taken place before the separation. The second consonant would seem to be lost in *σύν* for *σκύν*: *ξύν* shews misplacement of the *σκ* just as *σπ* was liable to change to the commoner *πσ* (*ψ*): *κυν*, however, is preserved in the name *Κυνουρία* (i.e. *con-finia*¹).

Original *v* is lost in *ρίζα* for *Φρίζα*, the O. H. G. *wurza*,

¹ For further examples see Curtius, *Gr. Et.* 621—6, whence the above are taken.

and modern "wurzel;" *ῥάκος* is from *VRAK*. Since the Latins had *radix* by *ρίζα*, and *lacer*, perhaps *lacerna*, by *ῥάκος*, this loss also would seem to be Graeco-Italian. The same is not true of *ρήγνυμι*, Latin *frango*; this form is curious. The oldest form of the root seems to be *BHRAG*, for the Gothic is *brikan*, to "break:" then this *BH* irregularly weakened itself to *F*¹, evidenced by Aeolic *Φρήξις*, which vanished in common Greek: the Latin form is regular². But with this exception it would appear that these losses of initial spirants were no peculiarity of the Greek; they were rather due to a tendency which was acting in Graeco-Italian times, and never ceased in Latin, but which was almost stopped by the Greeks when left to themselves. The Greeks have no objection to hard combinations, like *σκ*, *στ*, *σπ*, at the beginning of a word; they dislike the amalgamation of different consonants *within* a word.

In Latin the regular loss is also of *s* and *v*. No real Latin word begins with *sr*, *sn*, or *sm*³; hence we have (parallel to the Greek losses given above) *riuus* from *SRU*, *nurus*, and *memor* for *sme-smor*; there is also no initial *sl*, so that *limus* may be our "slime"⁴. Corssen⁵ adds another to the possible etymologies of the much contested "Rome," by deriving it from *SRU* (*Srouma*), the "stream-town," and explains the name by reference to the insulated condition of the old *Roma quadrata* on the Palatine, before the Tiber was kept within its banks. From the same root he also very plausibly derives *Reate* (*Sreu-ate*) in the high constantly inundated valley first drained by *Curius Dentatus*. Sometimes *s* has fallen out before *j*, as *funda* (= *σφενδόνη*), *fides* a "string," Greek *σφιδη*, *fallo*, by *σφάλλω*.

¹ This weakening occurs also in *Φαγ*. (Sk. *bhañj*) but in no other word.

² *Gr. Et.* 476.

³ Even some borrowed words lose it in Latin, as *myrrha* (*σμύρνα*).

⁴ *Krit. Beitr.* 429; but see *Gr. Et.* 329.

⁵ *Krit. Beitr.* 428.

Passing to the momentary sounds we shall find *s* lost principally before *t*; in *torus* (Gk. *στορ*), *tego* (*στέγω*), and many others. Corssen, against Curtius and Max Müller, would derive *ton-itrū* from STAN, found in Greek *στένω*: but this supposes a loss of the *s* in the Teutonic family as well ("thunder," &c.), which is very unusual; as far as the sense goes, it seems to me better. Sometimes *s* is lost before *c*, as in *caueo* (SKAV), *cutis* by *σκύτος* and *κύτος*, is from SKU, whence comes also *cauos*, and perhaps *caelum*; *casa* may be *s(c)ad-sa*¹ for *scad-ta*, the past participle of SKAD, "to cover," Sanskrit *CHHAD*. *S* may have fallen out before *p* in *penuria* (*σπάνις*) and *pituita* (*πνιίζω*) from SPU-TU, a lengthened form of SPU (in *spuere*). Sometimes *st* falls away entirely before *l*, as in *lis*, *locus* (the form *stlocus* points to STAL), and *latus* (*stlatus* being the past participle of STAR, "to strew," and meaning that which is strewn, scattered, widened). Hence the distinction between *navis stlata*, a vessel built broad for merchandise, and *navis longa*, the man-of-war².

V is lost in much the same words as in the Greek: *lacer* and *radix* are given above; *lupus* may perhaps be the Sanskrit *vrika*; and *ros* (*ῥέσση*, or *ῥέση*) is connected with *VRISH*. Sometimes, but rarely, the lost *v* is the second letter, as in *canis* (*κύων*, Sanskrit *çvan*; and *v* is lost, though not without leaving its trace in a rather large list of Latin words, where original *va* has passed into *o*: such are *soror* (Sanskrit *svasṛi*), *socer* (original *svakura*), *sonus* (Sanskrit *svana*), *sopor* (root SVAP), &c. The Greek is quite irregular in such of these words as it has retained, as *ἐκυρός*, *ἔκνος*, &c.

Besides this somewhat regular loss of *s* and *v* we find sporadic loss of initial mutes: Further
loss in
Latin.

¹ *Krit. Beitr.* 448.

² *Id.* 462.

of C before *v*, in *uermis*, Sk. *kṛimī*, and Gothic *vaurm-s*¹.

before *l*, in *lamentum* (*clamor*, &c.), *laus* (*CLU*).

of G before *v*, in *uenter* (*γαστήρ*), and *uorare*², *uenire* (root *GVA*, whence Greek *βαίνειν*, Gothic *kvi-man*³).

before *n*, in *notus*, *nomen*, *narrare* (see page 47).

of T before *l*, apparently in *latum* for *ilatum* (root *TOL*).

of D before *r*, assumed by Corssen⁴ in *ruere* and *racemus* (Sk. *draksha*); but in neither case is the connection certain.

before *v*, in *uiginti* from *dvi*: compare *bis* (*duis*) and *bellum* (*duellum*).

before *y*, in (*D*)*iouis*.

of P before *l*, in *laetus* for *plaetus* (compare Sanskrit *priya*), *lātus* (*πλάτος*); *lauere* (*λούειν*) may be from *PLU*, which occurs in Sanskrit and Greek *πλύνειν*⁵.

Connected with this initial loss is the frequent misplacement of consonants in groups at the beginning of a word. Thus *κράδια* is Latin *cord*-; from *FRAK* (*φράσσω*) comes *farcio*, and many other cases occur of a consonant thus thrown forward to avoid a heavy consonantal beginning. In some, no doubt, it is not quite certain how the consonants were placed in the radical form; but the general tendency is unmistakeable.

Loss of initial *c* when standing alone.

I may also mention here the curious loss of *c* (*K*), not in compounds, but standing alone at the beginning of some pronominal words, as (*c*)*ubi*, (*c*)*uti*, (*c*)*unde*: the *c* is preserved in *ali-cubi*, *ali-(c)unde*, &c. Other supposed losses, as *aper* (*κάπρος*), *amo* (Sk. *kam*), seem to be uncertain. No other consonant seems to fall away similarly; the reason here is quite uncertain.

¹ *Krit. Beitr.* 2.

² See p. 54.

³ See *Krit. Beitr.* 57—64.

⁴ *Id.* 142.

⁵ *Id.* 150.

Loss in the middle of a word is rarer. It is hardly found in Greek. Schleicher gives as an example τέτυφ-(σ)θε, where the accumulation of consonants was doubtless too much for the Greek feeling of euphony. The same objection to impossible combinations of sound caused the Ionic forms like ἐστάλαται for ἐσταλνται: the *a* is here not so much a substitute for the lost *ν* as the slight vowel-sound, which was still felt to be convenient even between λ and τ. A single consonant, τ, falls out regularly in the 3rd pers. sing. of verbs, as φέρε(τ)ι, and in nouns, as κέρα(τ)-ος. This is perhaps a further consequence of the Greek dislike to momentary sounds at or near the end of a word.

In Latin the examples are tolerably numerous, but they are hard to reduce to rule. Schleicher considers that they are the results of assimilation: the lost letter has been first assimilated, and then vanished in accordance with the old Latin rule of not writing the same letter twice¹. This is a very ingenious theory, and may be true; but it is simplest to treat the results under the general head of loss. I take the examples from Schleicher, who has taken them mainly from Corssen. This loss occurs most frequently before spirants:

before *s*, as *di(c)-sco*, *mul(g)-si*, *spar(g)-sus* (from *sparg-tus*), *miles* (for *milit-s*), *sua(d)-si*; *ce(n)sor* and *co(n)sol* (in old Latin, but the old forms were replaced, though not the original sound); so also *quotie(n)s*, *ru(r)sum*, and many others.

before *y*, as *ma(g)-ior*, *se(d)-iungo*, *pe(r)-iero*, *tra(ns)-icio*, &c.

before *v*, as *bre(gh)-u-is*, *le(gh)-u-is*, *sua(d)-u-is*, &c.

¹ *Comp.* 258.

ii. *Medial loss: hardly found in Greek.*

Common and irregularly in Latin.

It is common also before nasals:

before *n*, as *lu(c)-na*, *pi(c)-nus*, *de(c)-nus*, *ua(c)-nus*, *ce(s)-na*, *po(s)no*.

before *m*, as *sti(g)-mulus*, *exa(g)-men*, *re(s)-mus*, *Ca(s)-mena*.

It occurs before *l* apparently in *te(x)-la* and *corpu(s)-lentus*. Loss is hardly found before any momentary consonant except the dentals; thus

before *t*, in passive participles, as *tor(c)tus*, *ul(c)-tus*; in all these the group consists of at least *three* consonants.

before *d*, the loss being restricted to *s*, as *iu(s)-dex*, *i(s)-dem*, *di(s)-duco*.

In all these cases it will be observed that the loss is confined to the last letter of the root or prefix. The Latin tendency to weaken the end of a word seems to have extended even to the separate syllables.

iii. *Final loss.*

Loss at the end of a word extends to single consonants, as well as to combinations of them. We have already seen that in all languages the accent has a tendency to be thrown back as soon as the consciousness of the relative value of the different parts of a word becomes obliterated. Probably for example, as I have said before, the personal terminations of the verb bore the accent originally (as in $\phi\eta\mu$), and continued to do so as long as the μ was distinctly felt to be the pronoun "I," which limited the idea of "speaking," to a single person, the speaker: but when this fact ceased to be felt, and μ was no more than a grammatical suffix, the two syllables, which formerly existed side by side with some sort of mutual independence, became fused together, and the accent almost always fell back. This loss of accent made the last syllable comparatively unimportant, and liable

to phonetic corruption: and this corruption is found, as a general rule, in proportion to the inability of a language to accent the last syllable: and therefore Latin, which never accentuates the last syllable, has suffered more on the whole from loss than Sanskrit or Greek: this we have already seen in the shortening and loss of its final vowels, and shall now see again in its consonantal loss. The sounds thus lost will of course differ much for different languages: one people found a final sound difficult which presented no difficulty to another; thus the Greeks liked final *s*, which the Italians slurred over, weakened, and finally lost. But the principle is the same for all languages: final unaccented syllables had a tendency to weaken or drop their difficult sounds.

But the operation of this principle could be affected by other causes. In Greek the last syllable is often accented and yet weakened, e.g. *τιθείς* for *τιθέντις*. And in one respect at least the final syllable in Greek seems to have suffered more than in Latin. It is more monotonous, a great sign of weakness in language. As is well known, the Greeks allowed no consonant to end a word but the light-sounding *ν* (into which the common Graeco-Italian *m* of verbal and nominal suffixes was therefore changed), *σ*, and rarely *ρ*: so final consonants were either dropped altogether, *σῶμα(τ)*, *ἔφυ(τ)*, Sanskrit *abhūt*; *ἔδειξα*, Sanskrit *adiksham*; *πατέρα*, (*patrem*); or softened, if dentals, into *σ*: as *τέρας*, *πρός*, *δός*, *τετυφός*; if *μ* into *ν*, as *μοῦσαν*, *ἔτυπτον*¹. Latin, on the contrary, allows considerable variety of final consonants. But there is no monotony in the final vowels of the Greek, whereas, as we have seen, in Latin a final vowel tends to sink to *e*. This then is the explanation of the obvious difficulty, that final accented syllables are yet weakened in the Greek. The vivid life of the Greek vowels overpowered the

*Monotony
of conso-
nantal ter-
minations
in Greek.*

¹ *Comp.* 236, &c.

final consonant or consonants, and reduced them to absolute uniformity, or completely extinguished them. The power of the vowel over the consonant in Greek which is seen here, may be contrasted with the power of the consonant in Latin to assimilate the vowel¹: nothing could better shew the difference in the genius of the languages.

When a group of consonants ended a word, they were sometimes all dropped, as in γάλα(κτ), ἄνα vocative of ἀνακτ; generally the last was retained, τιθείς (τιθέντς), ἀληθής (ἀληθεσ + ς), with compensatory lengthening of the vowel, the vowel-sound being naturally prolonged to fill up the gap of the missing consonant. Sometimes however the first consonant was kept with the same lengthening of the vowel, probably from analogy, as λέγων (λέγοντς), ποιμήν (ποιμένς); I infer that the first method is the older, from the probability of forms like διδούς (διδόντς), being older than λέγων (λέγοντς): but how the change arose I cannot say.

The effects of this frequent loss of dentals and spirants on the Greek vocalism have been already mentioned under the head of the Greek diphthongs. The loss of the spirants themselves was considered under the head of Substitution.

*The ν ἐφέλ-
κυστικόν.*

A curious phenomenon in connection with the subject is the ν ἐφέλκυστικόν. This is in its origin no mere poetic license, though it may have been afterwards metrically useful. It seems to me to have been rather a sort of "after-sound," resembling the Sanskrit Anusvâra, a feeble echo supplying the place of a lost consonant. Thus λέγομες, which is still found in Doric, was doubtless the old Greek form, parallel to *legimus*: then the ς fell away, and left λέγομε: the final syllable was then thickened in pronunciation, and so became finally λέγομεν; where it is not to be supposed that ν is a substitute for σ², but, as I said, a new "after-sound," pro-

¹ See pp. 179—185.

² *Comp.* 238.

duced after a weak termination: which could afterwards (erroneously) be sounded in places where no consonant had been lost, as λέγουσιν. Schleicher (*ib.*) points out that the loss of final *s*, though rare in Greek, is paralleled by οὔτω(ς), &c.

In Latin—at least as we know it through the Roman *Greater range in Latin.* writers—there was no such dislike to the accumulation of consonants at the end of a word, as we have seen in Greek. Any number of consonants which could be pronounced was allowed. Thus—to borrow examples from Schleicher¹—we have *ferunt, hunc, hiemps, arcs, urbs*, &c.: all of which are impossible to the Greek ear. The only exceptions seem to be these: that no double consonant is permissible, e. g. we have *os* and *fel*, but the genetives *ossis* and *fellis*: and that no two mutes are allowed: thus we have *lac(t)*, compare γαλα(κτ), *cor(d)*, &c.²

But in the older Latin—the spoken Latin of which Plautus is the written representative—which, as we have so often seen, continued to be the language of the people, even when Virgil and Horace were delighting the literary circles of Rome with verses which must have been read in a manner widely different from the pronunciation of common life; in this Latin final consonants were regularly dropped: they were often actually omitted upon inscriptions, not merely ceased to be audibly pronounced as in the Romance languages, where they have been fixed by literature even when unheard in conversation. The consonants which most frequently fell away in this manner are the most common final letters *s*, *m*, and *t*. For the loss of these Schleicher gives the following examples.

Final *s* is dropped upon inscriptions in nominative cases, *Loss of final s* like *Tetio(s)*, *Furio(s)*, *Corneli(os)*. The older inscriptions,

¹ *Comp.* 270.

² *Ib.* 271.

those of the second Punic war, shew it much less often written than dropped¹: though when the *o* in these nominatives was weakened to *u*, the *s* seems to have been regularly retained. By the beginning of the Empire, *s* even preceded by *u* was often lost on inscriptions: and a few centuries later, *s* had vanished from every case as well as from the nominative. In written Latin of the classical age, as we know, the *s* was generally kept. Still even here there are plenty of instances where its loss in writing shews how little it was commonly heard. Such are forms like *amabare* by the side of *amabaris*, and similar losses in other tenses: forms also like *mage* and *pote* for *magis* and *potis*. And it was regularly dropped in other forms, only a few traces surviving in Plautus; or in words, which from some old association retained their archaic form. Thus *s* was regularly dropped in the nominative plural of the O-declension. Yet we find *hisce homines* in Plautus², *magistreis*, *publiceis*, &c. on inscriptions. In the genitive of the A-declension, we have *familiae*, yet sometimes the older *familiā(i)s*. And lastly, through previous loss of the vowel of the termination, we have *pueros*, *puers*, *puer*.

Loss of
final *m*.

For the omission of final *m* on inscriptions we need not go farther than the often-quoted epitaph of Scipio, the consul of A.U.C. 495. This begins, as given by Mommsen in the *Corpus*,

Honc oino pliorume cosentiont R[omani]
Duonoro optumo fuise uiro [uiororo—*e conj. Ritschl*].
Luciom Scipione, &c.

Here the *m* is omitted five times, and written once: whether written or omitted the scanning seems to be the same. There can be no doubt that it was not heard but continued in an irregular fashion to be written to prevent confusion of cases, &c., the reason why it was kept in later Latin. That it was

¹ Corssen, i². 286.

² Trin. 877, and Brix's note.

hardly heard is shewn by its elision in the Augustan poets, but that it was not absolutely dumb seems proved by its occurring not elided in Lucretius¹.

Final *t*, as Schleicher points out, seems to have had the ^{Loss of final *t*.} sound of weak *d*. As such it was sometimes written in the ablative case: as *Gnaiuod*, sometimes dropped altogether in the same line², as *patre(d)*. *Haut* is sometimes *haud*, sometimes *hau*. The late Latin shews the *t* written in personal terminations, as *uehit*: but the old Latin often omitted it, as in *dede* for *dedit*, *dedro* for *ded(e)ront*; compare the classical *dederunt* and *dedere*. This loss was universal in Umbrian; as it was in the late Latin, and the derived modern Italian. Indeed the loss of final consonants is felt much more in Umbrian than in Latin, but not in Oscan. Schleicher suggests reasonably enough that at the time from which our inscriptions date, a common form had established itself among the wide-spread Sabellian tribes, which became the literary dialect, and therefore ceased to vary further.

¹ At least in monosyllables; see III. 1082, and Munro's note on II. 404.

² Epitaph of Scipio.

LECTURE XIII.

CONSONANTAL CHANGE (continued).

III. ASSIMILATION.

1. *The Greek Aspirates.*

I HAVE already, in the account of the Latin aspirates, given the reason why I believe the Greek aspirates to be the result of assimilation. The change of the original breath to the spiritus asper seems to me to explain the changes of these letters in both Greek and Latin, whilst I know no other that does. The original pronunciation of the soft letter, followed by a breath, possible to the original people, possible to the Hindu, and to his descendant¹, was impossible to the nations of the west, who therefore changed the breath to the more familiar and very slightly different spiritus asper. Even in Sanskrit this occasionally took place; e.g. in *hita* for *dhita*, the past participle of *DHA*, and the root *HAN* for *GHAN*; in these the breath has become the rough

¹ Thus Prof. Arendt (Kuhn and Schleicher's *Beiträge*, II. 289) declares that he has heard a Mohammedan, whose mother speech was Urdû, pronounce these sounds countless times without the slightest insertion of a vowel between the soft explosive sound and the *h*, and without the soft being changed into the corresponding hard.

breathing, and expelled the *d* and *g*. In Latin we have seen that sometimes one member of the new compound was left, sometimes the other. The Greek followed its usual course. Instead of ejecting one of the sounds—a process, as we have seen, rare in Greek—it allowed the second to assimilate the first, and, therefore, instead of *gh*, *dh* and *bh*, the soft aspirates, we have regularly the hard χ , θ , ϕ .

That the original aspirates at least passed through this stage is allowed even by those who maintain that χ , θ , ϕ were sounded in classical Greek not as hard aspirates, but as hard spirants (as they are in modern Greek) corresponding to German *ch*, English hard *th*¹, and *f* respectively. This view is taken by Prof. Arendt²: the soft aspirates, according to him, became first the hard aspirates, and then the hard spirants; the immediate passage would be impossible. Curtius allows the change from the hard aspirates to the spirants, but does not believe that it took place until at least the first century of our era. As it is of some interest to know what was the pronunciation of these important sounds in the mouths of the great men of Greece, I will briefly examine the arguments on both sides.

Arendt argues that the difference of sound between the Greek aspirates (if real aspirates) and the Latin equivalents would be too great for languages so cognate: an argument which certainly does not convince me. And when he adds that $\theta\acute{\eta}\rho$ passes into the by-form $\phi\acute{\eta}\rho$ (like Latin *fera*), it is quite true that the difference of sound between the spirants *th* and *f* is less than that between the aspirates *th* and *ph*; but this does not prove that *t'h* could not pass into *p'h*, or that $\phi\acute{\eta}\rho$ and *fera* agree from anything more than accident. Arendt next examines cases where the aspirates occur in combination with other aspirates or consonants; and no

Pronunciation of the Greek aspirates.

Probably they were not sounded as spirants.

¹ As in *this*, *breath*, &c.

² K. and S. *Beit.* II. 424, &c.

doubt in these cases the difficulty of the genuine aspirate is most felt. Words like *Σαπφώ* indeed are as easy on one hypothesis as on the other: *σθ* is easier, as Arendt allows, if *θ* be an aspirate, but he calls in the English pronunciation to shew that *θ* can be a spirant in this combination (e.g. in *Demosthenes*); though he seems to think that "asthma" and "isthmus" are pronounced in England as *astma* and *istmus*: surely either the spirant is heard fully, or entirely dropped, as *asma*, *Ismus*; and he is uncertain whether "sixth" is pronounced as *siksth* or *sikth*. But undoubtedly his strongest argument is furnished by the combinations *χθ* and *φθ*. It is quite impossible to sound *c'h't'h* together fully. This Curtius himself grants¹; but he says in reply, I think quite truly, that in no language do we find that in groups of consonants each particular consonant preserves its peculiar value completely under all circumstances. Some one must be partly, if not wholly, sacrificed: this is the very reason of the loss which we saw so frequent in consonantal groups. So in words like *χθές* and *ἄφθιτος* it is conceivable that the breathing may have been sufficiently given by the second; so that *kt'hes*, and *apt'hitos* were heard. Curtius mentions the form *ἀπθιτος* as occurring on an inscription; and he suggests that the sound may even have been *apft'hitos*, by assimilation of the breath, thus paving the way to the spirants of the later Greek.

Arguments
to prove
they were
really aspi-
rate
sounds.

On the other hand, Curtius adduces some positive arguments² to prove *χ*, *θ*, *φ* were real aspirates, which seem to me on the whole satisfactory. The first of these is the ease with which the *h* fell off, and left the explosive element alone, in reduplication, &c.; e.g. *πέ-φυκα*, *ἐ-τέ-θην*, *ἐνθαῦτα*, the Ionic variant for *ἐνταῦθα*, &c. Leo Meyer³ well points out that the possibility of a reduplicated *f* in Latin (*fefelli*,

¹ *Gr. Et.* 373.

² *Gr. Et.* 370, &c.

³ *Verg. Gram.* I. 43.

&c.) by the side of *πέφυκα*, &c., shews the difference of sound between *f* and *φ*; in the Greek dissimilation was necessary to avoid cacophony. Curtius' second argument is the pronunciation of these sounds by foreigners, so far as we can judge from Aristophanes; e.g. *ὄρνιτο παραδίδωμι*, in the *Birds* (1679), or the speech of the Scythian in the *Thesmophoriazusae*:

πέρ' ἐγὼ 'ξενίγκι πορμός, ἵνα πυλάξῃ σοι.

These may not be conclusive, but at least they shew that *θ* and *φ* imperfectly pronounced were more like *τ* and *π* than *th* and *f*. But the most convincing argument is certainly that drawn from Latin transliteration, at the time when they expressed the borrowed Greek words as well as they could with their own alphabet. If *χ* had been a guttural spirant surely the Latins would have denoted it by their *h*, which, as we have seen, had still a guttural character. Yet we find on inscriptions *Bacanal*¹, *Antioco*², and many others. Similarly we find *p* in the place of *φ*, not *f*: and even though *f* differed from *φ* in being a "labio-dental" (according to some authorities) whereas *φ* was a pure labial, yet, at least, if *φ* had been a spirant, *f* was a nearer sound than *p*: but we have *Pilipus*³, *triumpe*, thrice repeated in the old *Carmen Arvale*⁴, *Trupo*⁵ (*Trypho*), &c. The Latin has lost the dental spirant; therefore no certain influence can be drawn respecting *θ*: but, at all events, it always appeared as *t* (as in *Corintus*⁶ and *Cartago*), not as *f*, the spirant which stands for *th* in Latin. This argument from transliteration seems to me very strong: the Latins in at least two cases possessed the very spirants which would have represented the supposed Greek spirants; and did not employ them. Lastly, the modern Greek in certain cases represents

¹ *Corpus*, n. 196.

⁴ *Id.* n. 28.

² *Id.* n. 35.

⁵ *Id.* n. 1109.

³ *Id.* n. 354.

⁶ *Id.* n. 541.

the old aspirates by hards, not, as commonly, by spirants; e.g. ἔκω for ἔχω, τεκνίτης. Now it is conceivable that original aspirates should produce sometimes spirants, sometimes hards; but difficult to conceive that original spirants should turn back to hards. These arguments of Curtius, which I have here very briefly set before you, seem to me as satisfactory as the case will allow of. My conclusion is that χ, θ, and φ were genuine hard aspirates at the prime of Greek literature, and that they were formed from the soft aspirates of the original speech by the assimilating influence of the spiritus asper, into which the original breathing passed.

2. *General rules of assimilation in Greek.*

Most of the changes of which I have here to speak are familiar to you from the Greek grammar. I wish to arrange them together for you as results of a common tendency. In most of them we shall find that a dental or a spirant is concerned, either as the active cause of the assimilation, the assimilating letter, or the sound assimilated. It is this tendency to assimilation which has produced the largest amount of change in Greek words; one consonant takes the place of another, even a consonant foreign to the original system is introduced. Yet it is noticeable how even here, in consonantal combinations, where the Greek seems to have changed so much more than the Latin, the Greek is in reality more truly conservative; it has not lost any sound without some equivalent; whereas we saw that the Latin constantly allowed a consonant to drop without leaving any trace whatever. The Greek is also the gainer in softness of sound.

I. Complete Assimilation.

We may consider Greek assimilation under two main heads—as complete and incomplete. In the first case either

one sound passes into the other, or the two pass into some third sound, denoted either by one symbol, as ζ, or by two, as σσ, ττ. In the second, one sound simply becomes more like the other. Under the first head we may distinguish the following cases.

(i) Where the first sound is assimilated to the second. (i) *Assimilation of the first sound.*

Such cases are φαεννός for φαεσ-νο-ς, a form which is regular in the Aeolic¹, but occurs also in Tragedy. The Attic poets may possibly have borrowed this and similar forms from the Aeolic dialect. But they certainly could not have done so if the process had not been one familiar to the feeling of the Athenian language. It is shewn indeed in forms like ἐννυμι for φεσ-νυμι, which are universal throughout Hellas. Schleicher assigns to this principle the double ρ in περιῤῥυτος, ἄρρηκτος, &c. for περι-σρυτος, α-ῤῥηκ-τος, which is not improbable². Cases like συλ-λέγω, συρ-ρέω, ποσσί for ποδ-σι (here the later Greek dropped one σ), are familiar to all. ὄπ-μα passed into ὄμμα in all Greek except Aeolic. But no doubt this result was much commonest in the Aeolic: as ἔμμι for ἐσμι, ἄμμες (also Doric) for ἀ-σμες, ἔμμα for φεσ-μα; and (in Boeotian) ἵττω for ἴστω (as Ar. Ach. 911), ἔττασαν for ἔστασαν. Still more is this so in the next case.

(ii) Where the second sound is assimilated to the first. (ii) *Assimilation of the second sound.*

Thus we have in Aeolic κτέννω, κρίννω, πέρροχος, κεννός (for κεν-γο-ς), Μίλλατος³, ἐβολλόμαν⁴: we have ὄππα⁵ instead of ὄμμα, and ὄσσομαι for ὄπ-τομαι: see however the end of the next case. Numerous other examples may be found in Ahrens⁶.

The forms ἔσσομαι, ὅττις, ὄπποτα⁷ are of course not Aeolic only (as far as the reduplication of the consonant goes), but also Ionic. I may add with respect to the last

¹ e.g. Sappho, III. 2.

² Comp. 227.

³ Theok. xxviii. 21.

⁴ Id. I. 15.

⁵ Sappho, II. 11.

⁶ Gr. Dial. I. 49—69.

⁷ Sappho, II. 2; III. 3.

that the $\pi\pi$ is only found in pronominal words, in which the first π is not original: the old form of $\pi\omicron\tau\alpha$ (whence $\tilde{\upsilon}\text{-}\pi\omicron\tau\epsilon$) was $\kappa\omicron\tau\alpha$, then a parasitic u sprang up after κ , and produced in turn $\delta\text{-}\kappa\omicron\tau\alpha$, $\delta\text{-}\pi\omicron\tau\alpha$, and $\tilde{\upsilon}\text{-}\pi\pi\omicron\tau\alpha$. But I do not think that $\pi\pi$ is found in any case where π is radical¹. The forms $\tilde{\epsilon}\sigma\tau\epsilon\lambda\lambda\alpha$, &c. for $\tilde{\epsilon}\sigma\tau\epsilon\lambda\text{-}\sigma\alpha$, $\tau\acute{\epsilon}\sigma\sigma\alpha\rho\epsilon\varsigma$ for $\tau\epsilon\tau\omicron\alpha\rho\epsilon\varsigma$, $\pi\omicron\lambda\lambda\acute{\omicron}\varsigma$ for $\pi\omicron\lambda\text{-}\omicron\sigma$ (whence the other form $\pi\omicron\lambda\nu(\omicron)\varsigma$), $\delta\lambda\lambda\upsilon\mu\iota$ for $\delta\lambda\nu\mu\iota$, $\pi\tau\acute{\iota}\sigma\sigma\omega$ for $\pi\tau\iota\sigma\text{-}\gamma\omega$, are of course Attic. Many more examples are given by Schleicher².

(iii) Modification of both sounds: where the first is a hard guttural or dental.

(iii) Where the two sounds pass into a third (doubled) sound.

Here we have the numerous and important cases where we find $\sigma\sigma$ ($\tau\tau$) produced by the combination of y with a mute. If we begin with the dentals where the nature of the change is most obvious, we find τy passing into $\sigma\sigma$ ($\tau\tau$) in $\kappa\rho\acute{\epsilon}\sigma\sigma\omega\nu$ for $\kappa\rho\epsilon\tau\text{-}\gamma\omega\nu$ ($\kappa\rho\acute{\alpha}\tau\text{-}\omicron\varsigma$, &c.), $\lambda\acute{\iota}\sigma\sigma\omicron\mu\alpha\iota$ for $\lambda\iota\tau\text{-}\gamma\omicron\mu\alpha\iota$ ($\lambda\iota\tau\text{-}\eta$, &c.), and similarly θy becomes $\sigma\sigma$ ($\tau\tau$) in $\kappa\omicron\rho\acute{\upsilon}\sigma\sigma\omega$ for $\kappa\omicron\rho\upsilon\theta\text{-}\gamma\omega$, in $\mu\acute{\epsilon}\sigma\sigma\omicron\varsigma$ for $\mu\epsilon\theta\text{-}\gamma\omicron\text{-}\omicron\varsigma$. In all these and similar cases we find both the $\sigma\sigma$ and $\tau\tau$ forms. What is the history of these two forms? Which is the older of the two? Or is there some intermediate step through which they both come, but neither of them is derived from the other?

Pott holds $\tau\tau$ to be the oldest in the case of the verbs; where he thinks that $\tau\omicron$ is the suffix, not $\gamma\omicron$. Thus he

¹ Consequently we must reject the emendation $\tilde{\upsilon}\pi' \delta\pi\pi\alpha\lambda\acute{\omega}$ in Theok. xxvii. 4,

$\delta\pi\pi\upsilon\iota\ \text{Κύπριδος}\ \text{ἱeron}\ \text{καλάμω}\ \text{χλῶρον}\ \text{τύπαπιδλωτ},$

where the last word is corrupt. I like Ahrens' emendation $\text{καλάμω}\dots\text{ὑπασσά}\omega$ best of any that have been offered. Mr Snow however in his recent edition of Theokritus has carried out very ingeniously Meineke's suggestion that some proper name has been lost in the MS. word, by producing from Strabo the name Ἀμπελος for a promontory of Samos. Still $\text{ὑπασσά}\omega$ is nearer to the MS. and so unusual a word was more likely to be corrupted than the common Ἀμπελος .

² Comp. 228.

would make the order, *πρακ-το-, πράττω, πράσσω*, by regular weakenings. This however leaves the comparatives still unexplained. And further, the Doric, which elsewhere does not weaken τ to σ , has yet *πράσσω, θάλασσα*, &c.; so that these forms would be unexplained. The first appearance of $\tau\tau$ is in the Attic, and in Boeotian (which also shews $\delta\delta$). In the *Tempora und Modi* Curtius seemed to explain the phenomenon as a Boeotism which had crept into Attica, in the first instance in order to avoid assibilation in words like *σφάσσω*, and then passed over the whole language. This explanation, improbable on many grounds, he has since, I think, dropped.

Two other explanations seem to be possible. The first is that $\tau\tau$ was produced from $\tau\gamma$, as *λίττομαι, τέτταρες*: but that the γ could also assibilate the τ (just as ι or υ could, as we shall shortly see); and thus came also *λίσσομαι* and *λίσσομαι*, like *ἔσσομαι* for *έσ-γο-μαι*. This seems exceedingly natural and probable: but here again we are met by the fact that the Dorians have the double σ , and yet do not exhibit *σι* for *τι*, the analogy on which this reasoning rests. Consequently I think we are driven to the second explanation, to which Curtius and Schleicher incline¹; namely, that from the influence of the preceding dental, γ weakened itself into the weak dental sibilant (denoted by us sometimes as z , sometimes by s , in the verb "to rise"). Thus *λιτ-γο-μαι* became *λιτ-σο-μαι*, and *λιτσομαι* became either by case (ii) *λίττομαι*, or by case (i) *λίσσομαι*. The same explanation applies to final $\nu\tau$, followed by γ , as *χαριεντ-γα*, whence *χαρίεσσα, πᾶσα* for *παντ-γα*, &c. In favour of this view is the fact that the Boeotians in other cases hardened σ to τ , as *ἴττω*, &c. mentioned above. These words are not explained by the first hypothesis.

¹ See also Corssen, *Krit. Beitr.* 468.

The two explanations will be best seen thus, side by side :



Next there are numerous words in which $\sigma\sigma$ ($\tau\tau$) arises from a guttural with y as well as from a dental. Thus κy becomes $\sigma\sigma$ in $\pi\acute{\eta}\sigma\sigma\omega$ (root ΠΤΑΚ), in $\eta\sigma\sigma\omega\nu$ (superlative $\eta\kappa\iota\sigma\tau\alpha$): χy is also $\sigma\sigma$ in $\beta\acute{\eta}\sigma\sigma\omega$ (noun $\beta\eta\chi\text{-}\varsigma$) and $\epsilon\lambda\acute{\alpha}\sigma\sigma\omega\nu$ from $\epsilon\lambda\alpha\chi\acute{\upsilon}\varsigma$. In these no doubt the guttural was turned first of all into a dental by the y ; which dental then in its turn assibilated the y , just as it did above. The change from $\eta\kappa\text{-}\gamma\omega\upsilon\varsigma$ to $\eta\tau\text{-}\gamma\omega\upsilon\varsigma$ is just parallel to that which we shall have to notice in the Latin; by which e.g. *con-dic-io* passed into *conditio*, because there was no appreciable difference in the sound.

This result $\sigma\sigma$ ($\tau\tau$) seems to be confined to the combination of the *hard* gutturals and dentals with y . This is worth observing, because in several cases it might seem as though the $\sigma\sigma$ was formed from γy or δy ; e.g. $\pi\rho\acute{\alpha}\sigma\sigma\omega$, $\pi\lambda\acute{\eta}\sigma\sigma\omega$, $\beta\rho\acute{\alpha}\sigma\sigma\omega\upsilon\varsigma$, &c. But of these, the verbs are really derived from an older form, which contains the hard letter. Thus the root ΠΡΑΚ seems to be guaranteed by the Lith. *perk-u* and the *ἄπαξ λεγόμενον*, *πρακός*¹. Similarly ΠΛΑΚ is the root of *πλάξ* and *πλακοῦς*, as well as the Lith. *plaku*, "I strike". Lastly, $\beta\rho\acute{\alpha}\sigma\sigma\omega\upsilon\varsigma$ is probably the comparative of $\beta\rho\alpha\chi\acute{\upsilon}\varsigma$, not of $\beta\rho\alpha\delta\acute{\upsilon}\varsigma$, to which it is commonly assigned². Other apparent exceptions admit of similar explanations.

There is no such change of a labial.

I have said that $\sigma\sigma$ results only from κy (χy) or τy (θy). This statement is not disproved by the forms $\pi\acute{\epsilon}\sigma\sigma\omega$, $\epsilon\acute{\nu}\iota\sigma\sigma\omega$,

¹ Gr. Et. 602.

² Id. 250.

³ Id. 600.

and some others. The first, *πέσσω*, undoubtedly seems to be from *πεπ* in *πέπων*, &c. But an older form is *ΠΑΚ*; and a still older (as far as regards the consonants) is found in the Latin *COC*. Similarly *ένίσσω* seems to belong to the Homeric *ένιπή*, *ήνίπαπε*, &c.; yet the simpler form is *IK*, found in Latin in the past participle *ic-tus*; so that *ένιπή* is a "word thrown," like *λαμβος*, where *λάπ-τω* is equally paralleled by the older Latin form *iac-io*. Similarly *δσσα* is not from *Feπ* but the older *VAK*; and *δσσε*, "the eyes," is from *OK*, found in the *δκκος* of Hesychius and the Latin *oculus*.

(iv) Where the two sounds coalesce into one single letter.

This happens when *y* is preceded by the *soft* momentary Change of a soft guttural or dental. sounds, *δ* and *γ*. Thus *δy* = *ζ* in *έζομαι*, from *SED*, in *δζω* from *OD*, in *τράπεζα* from *(τε)τρα-πεδ-γα*, in *Ζεύς* from *Δγευς* (Sanskrit *Dyḍus*). These examples, with others, are given by Schleicher¹: they are so numerous that any one may supply them for himself. They shew the origin of the Greek *ζ*, a compound letter, denoting first *δy*, then *δs*, where *s* is the *weak* sibilant (*z*) just as in the last case. Hence the compound letter *ζ* or *dz* has the power of lengthening a previous vowel in prosody, which power it could not have had if it had been only a weak *s* or *z*.

Just as *κy* passed first into *τυ*, so *γy* passed into *δy*, and then into *ζ*, as though the dental had been original. Thus *στιγ-γω* became *στίζω*, *μεγ-γων* became *μέζων* in Ionic, the Attic *μείζων*, from the desire to compensate for the loss of the original spirant.

It has been already mentioned that in the Boeotian the *y* assimilates itself immediately to *δ*, and produces e.g. *φράδδω* from *φραδ-γω*, not *φράζω*². At the beginning of a word one *δ* suffices, as *Δεύς* for *Ζεύς*³.

¹ *Comp.* 231, see *Gr. Et.* 542, &c.

² e.g. *θελδδεν* for *θελδζεν*, *Ar. Ach.* 947. This is also Laconian. See *Lys.* 82, 94, &c.

³ As in *Ach.* 911.

II. Incomplete Assimilation.

We may now pass to incomplete assimilation—when the two sounds do not become identical, but only approximate to each other. The principle of course is the same as that which we have seen acting above; only it is not so fully carried out. In this class we have the following main heads.

(i) "Euphonic" changes.

(i) All the euphonic changes of grammar: by which the final hard letter of a root is changed to a soft one before a hard termination, as *δόγ-μα* from ΔΟΚ, *γράβδην* from ΓΡΑΦ: and *vice versa* a soft passes into a hard, as *λεκτός*, *λεχθῆναι*, from ΛΕΓ. These have been already alluded to, and are too well known to need further description.

(ii) Changes caused by nasals.

(ii) Momentary sounds are sometimes nasalised before nasals, as *σεμ-νός* from ΣΕΒ: yet we have *ἔπ-νος* from ΣΦΑΠ¹. Before *μ* dentals have a strong tendency to pass into their spirant *σ*, as *πεῖσμα*, *ὄσμή*, *ἴσμεν*; yet *ὄδμή* is found in Attic (Aesch. *Prom.* 115) and *ἴδμεν* is Doric and old Ionic. A nasal could change the class of a momentary sound, in *δνόφος* for *γνόφος*, where the *γ* is probably itself weakened from *κ*; compare *κνέφας*. Similarly *ἀδνός* was Cretan for *ἀγνός*, whence the name 'Αρι-άδνη. That *γ* ever passed into *δ* without some assimilating influence is improbable. Therefore *οὐ Δᾶν*² is probably = *οὐ Ζῆνα* (i.e. Δ(γ)ᾶνα) as Ahrens explains it³: and *Δημήτηρ* is either *Διῖαμητηρ* or *Δυᾶνᾶ-μάτηρ*⁴; she is never called *Γημήτηρ*. In order that *γᾶ* should have passed into *δᾶ*, a parasitic *γ* must have sprung up after *γ*: which is improbable because it had F(ν) after it, as shewn in *γύη*, i.e. *γFa-a*, and *αῖα* for *Faia* or *γFaia*⁵.

(iii) Changes of nasals.

(iii) Nasals are affected in their turn by the following consonant: we have *σνγ-καλέω*, and *ἀγγέλλω* (*ἀνᾶ*); *ἐμπειρος* and *ἐμβαίνω*.

(iv) Change of τ to σ.

(iv) In all dialects except the Doric τ passes into σ

¹ Comp. 230.

² Theok. iv. 17; vii. 39.

³ Gr. Dial. ii. 80.

⁴ According to Max Müller, ii. 57.

⁵ Gr. Et. 162.

before *ι*; as *φησί* for *φατί*. This might rather seem a case of simple substitution: but I believe that it first occurred in cases where another vowel followed, as *πλούσιος* for *πλουτ-γο-ς*, *πλησίος* for *πλατ-γο-ς*: when the change would be due to the assibilating influence of the *γ*: then the softer sound was preferred universally; this *σ* for *τ* is also found before *ν* in *σύ*, but in Doric *τυ* is kept: the old form was *τνα*, where again the semi-vowel could assibilate; and the same is probably true of the suffix *-σύνη* for *-τύνη*, Latin *-tuna*; for there is a Vedic form *-tvana*¹.

(v) I may mention here the peculiar Laconian weaken-<sup>(v) Laconi-
an change
of θ to σ.</sup>ing of *θ* to *σ*, which may have begun in the same way as the last change, according to my suggestion. Thus we have *ναί τῶ σιώ* in Aristophanes², and many other similar forms: *σα-λασσομέδων* occurs in Alkman³. The form *σιός* for *θός* is also Boeotian⁴. It will be evident how near these two varieties, the Boeotian of the Aeolic, and the Laconian of the Doric, approach each other.

(vi) The spirant *ν* is altered by assimilation in certain<sup>(vi) changes
of ν.</sup> dialects. Thus *Φρόδον* becomes *βρόδον* in Sappho⁵, *Φράκος* is *βράκος*⁶, and others occur. This change is less surprising, for we have seen that *φ* passed into *β* in Laconian even without any neighbouring sound to influence it⁷.

In the word *σφε* we seem to have a hardening of original *ν* to *φ*. The old form is *σνα*, which in Greek generally became *έ* (through *Fe*). In this case it is hard to believe that *φ* was much more than a spirant. The same change is seen in *σφω*, the dual from *τνα* (whence *σνα* and *σν*): compare the Latin *uo-s*, where the *t* has fallen off⁸.

(vii) Lastly come some very peculiar forms which seem<sup>(vii) Other
exceptional
forms.</sup> to be more probably due to assimilation than any other

¹ *Comp.* 459.² *Ar. Lys.* 86, &c.³ Ahrens, II. 66.⁴ *Ar. Ach.* 906.⁵ *Frag.* 69, 2.⁶ *Theok.* xxviii. 11, see Ahrens, I. 34.⁷ See p. 234.⁸ *Gr. Et.* 581.

cause. These are e.g. *πτόλις* by the side of *πόλις*, *πτόλεμος*, &c.: *κτείνω* by *καίνω*, &c. It seems impossible to separate *πόλις* from Sanskrit *pura* (also a "city") and Latin *ple-bis*, perhaps *po-pul-us* (a reduplicated form); and therefore it must be from the root PAR "to fill," which in Greek appears generally as ΠΑΑ or ΠΑΕ, in Latin as *PLE*. This evidence excludes any possibility of τ having originally belonged to the root and then fallen out. It is clearly a Greek insertion. The only explanation of this curious change which I know, does not seem quite satisfactory. It is given by Professor Kuhn¹ and adopted by Curtius: that γ through indistinct articulation sprang up after π, and assimilated by the π to τ. We have seen above that πγ never became σσ, as the other hards did; but it is not easy to see why, if the sound πγ were difficult, it should not have passed into πε or πι, instead of the very difficult πτ. We must remember however that what is difficult to us was not necessarily difficult to a Greek—as the aspirates, for example. The explanation is supported by the form χθές. Here again the dental seems to belong to the Greek only: the Sanskrit form is *hyas* for *ghyas*, Lat. *heri*: and here the Sanskrit gives the necessary γ: χθών, according to Curtius² is another case in point: the older form is preserved in *χαμα-ί*, with which compare *χθαμαλός*; and the Latin *humus* agrees. Here however a different parasitic sound in Sanskrit has produced *kshamā* in that language.

Perhaps this explanation of those intrusive letters may stand till a better can be suggested. They are certainly not "euphonic" or "strengthened forms:" why did *πόλις* require to be strengthened? Still less are they "metrical licenses:" why should a Greek poet have the liberty of arbitrarily inserting an entirely new letter in order to make a word suit his verse any more than an English writer?

¹ *Zeitsch.* xi. 310, see *Gr. Et.* 437.

² *Gr. Et.* 438.

3. General rules of Assimilation in Latin.

In Latin also we have complete and incomplete assimilation. Complete assimilation may be divided into the same heads as those which we considered in the Greek. I. Complete Assimilation.

(i) Where the first letter assimilated itself to the second. (i) Assimilation of the first letter.

Thus *sup-mus* becomes *summus*, *sed-la* is *sella*: *d* is assimilated very frequently, as in *lapillus* for *lapid(u)lus*, *esse* for *ed-se*: *t* passes through *s* in *pet-na*, *pesna*, *penna*; compare *ces-na*, *cena*: *g* has been assimilated in *flamma* (*flag-ma*): very likely, as Schleicher suggests, *serra* is for *sec-ra*¹. In all these cases the radical vowel was short: therefore the final consonant was not absolutely forced out, but assimilated: and was written after the time when it became customary to write double consonants, not merely to make a little mark above one of them (the 'Sicelicus'). When the vowel was long the consonant was entirely lost, e.g. in *suā(d)-uis*, and other cases already mentioned among examples of Loss.

(ii) Where the second letter assimilates itself to the first. (ii) Assimilation of second letter.

This change happens to *t* in superlatives after *s* or *r*: as *durisemus* for *dur-i(o)s-tumus*, *celerrimus* perhaps for *celer-is-tumus*, *celerstumus*, *celersimus*²; and numerous others. After *r*, *s* naturally passes into *r*, as *ferrem* for *fer-sem*, *torreo* for *torseo*: and analogously after *l* passes into *l*, in *uellem* for *uel-sem*: *v* also assimilates itself to *l*, in *mollis* for *mol(d)uis* (Sanskrit, *mṛidus*), *sollus* for *sol-uos*; compare the phonetically different *sal-uos*; the cause being doubtless the strong sound of *l* at the end of a syllable.

(iii) Where the two letters pass into another double sound. (iii) Modification of both sounds.

¹ Comp. 258, whence these examples are taken.

² Comp. 262.

This takes place with some past participles in *-tus* and derivatives in *-tor*; where the *t* of the suffix together with the final letter of the root passes into *ss*. When the root itself ends in *s*, no such change commonly takes place, as *us-tus*, *haus-tus*, &c. But it occurs regularly when the root ends with a dental: e.g. *fissus* for *fid-tus*, *cassus* for *cad-tus*, *passus* for *pat-tus*, and many others: sometimes the first *s* vanishes, as in *ui-sus*, *lae-sus*, &c.: sometimes the double *s* is preserved in old Latin, as *ussus*, *diuis-sus*. In these cases the explanation seems pretty certain: the *s* at the end of the root is due to Dissimilation, as we shall soon see: then *fistus* assimilated itself to *fissus*, as we saw above in (ii). The same change is found in *pressus* from *premo* (through *prensus*), and *passus* for *pan-sus*.

II. *Incomplete assimilation.*

Passing next to incomplete assimilation we find the first two cases as in Greek.

(i) *"Euphonic" changes.*

(i) The "euphonic changes," by which a hard passes into a soft before a soft; as in *segmentum* from *SEC*: and a soft into a hard, as *actor* from *A G*.

(ii) *Changes caused by nasals.*

(ii) Momentary sounds passed into nasals, as *Samnium* for *Sab(i)nium*, *som-nus* for *sop-nus*¹.

(iii) *Change of t to s.*

(iii) We saw just above that *fid-tus* passed into *fis-tus*, and then *fis-tus* into *fis-sus* by assimilation. To assimilation also would seem to be due the change of *t* in *-tus* and *-tor* when in contact with other final letters than *s*. These are the somewhat cognate *r* and *l*. The change however is only sporadic. The *t* maintains itself in *ar-tus*, *exper-tus*, and many others, but suffers change in *cur-sor* and *cur-sus*. Similarly in combination with final *l*, *t* still appears in *altus*, *cultus*, &c.: but *s* appears in *falsus*, *celsus*, *pulsus*, and a few more. These cases may fairly be explained as the result of imperfect assimilation: the *s* is more easy to sound with *r* or

¹ *Comp.* 264.

l than *t* is. But this explanation will hardly suffice for the few cases where *s* is found, though the root ends with a momentary sound. Such are *lap-sus*, *lixus*, *fixus*, *fluxus*, and a few more. For these I think we must adopt Corssen's explanation¹: that the assimilation began with those roots which ended in dentals: and that the new suffixes *-sus* and *-sor* came by degrees to be introduced through analogy into places where they were etymologically inadmissible. The tendency to soften *t* to *s*, which we have already seen is pretty strong in Greek, was also shewn as Corssen points out by the change from the older forms, *pul-tare*, *mertare*, *mantare*, &c. to *pulsare*, *mersare*, *mansum*, &c.²

The assibilation of *c* and *t* in *ci* and *ti*, when followed by another vowel is commonly assumed to have taken place in old Latin, as it undoubtedly did in the late Latin and the Italian. One part of the evidence for this change is the varying spelling even in good MSS. of words like *suspicio* and *suspitio*. The sound of the two must have been very similar before such a change could take place; probably much the same as in our "suspicion," which could be equally well written "suspition" as far as the sound is concerned. The interchange would therefore be precisely analogous to that between *σσ* and *ττ*, which we saw took place tolerably early in Greek. Corssen, however, who has gone most thoroughly into the question³, proves that there is no such wavering of spelling in the inscriptions—our best guide—till a much later period than is commonly supposed. Thus he says that there is no variety on the most trustworthy inscriptions down to the latest times of the Empire in the following words: *contio*, *nuntius*, *setius*, *otium*, *indutiae*, *fetialis*, *dicio*, *condicio*, *solacium*, *patricius*, *tribunicius*: both forms occur in proper names, like *Lartius* or *Larcius*, where a double derivation is

Assibilation of c and t was a late change.

¹ *Krit. Beitr.* 426.

² See Quint. i. 4. 14.

³ *l.*². 49—67.

quite possible: so that the complete confusion of the two spellings did not take place till the seventh century after Christ, though isolated instances doubtless occur much earlier. The best MSS. read *suspicio* and *suspitio*, *conuicium* and *conuitium*; the first in each case is probably right etymologically. There is sufficient evidence of the assibilation of *ci* and *ti* among the provincials, which gave rise to the confusion. *Ci* was sounded as *çi* and even *si* in Umbrian, e.g. *faciat* was *façia*, at least as early as the third century B.C.; the Umbrian had even a special symbol for this palatal sound: and *fasia* is Volscian. But for Latin there seems to be no evidence of the change of *ci*, any more than of the interchange of *ci* and *ti*, till the seventh century: while against the change there is the negative evidence of transliteration, e.g. *oivkia* (in the sixth century after Christ), and the Gothic *faskja* and *laiktio* for *fascia* and *lectio*. The change of *ti* to *si* seems to have been earlier and more general: but Corssen regards it as belonging especially to the vulgar Latin (and the other Italian dialects), and not established in the speech of educated Rome till the fourth or fifth century after Christ. It is traceable however in isolated cases much earlier. Such are e.g. *uiciens*, which has come regularly through *uicesiens* and *uicensiens* from *uicentiens*: similarly *amasius* and others with the termination *-asio* are most probably from old *-antio*: *Acherunsius* is certainly from *Acherunt-io-s*, *Hortensius* was in old Latin *Hortentius*¹: and numerous names of towns in *-esio* throughout Italy, as *Valesium*, *Falesii* (Latin *Falerii*), compared with others in *-ento*, as *Laurentum*, *Valentium*; and in *-usio*, as *Canusium*, *Brundusium* compared with *Acheruntium*, coincide with the other evidence for this change in all the Italian dialects, but seem to indicate that it occurred very slightly in Latin. I infer therefore that in classical Latin

¹ *Krit. Beitr.* 467, &c.

ci and *ti* were both sounded hard except in cases where another form in *si* actually occurs beside the latter. Before *e* or *i* alone there can be no question that *c* was sounded hard.

IV. DISSIMILATION.

This principle has a more limited application to the consonants than even to the vowels, and for the same reason: there are not many cases in which the occurrence of the same sound twice is unpleasant to the ear. Still, few as they are, they are tolerably certain.

(i) One case where Dissimilation acts is common to (i) *Change of a dental.* Greek and Latin: namely, when a dental comes into contact with another dental at the beginning of a suffix. In this case the final dental of the root passes into *s*. In Greek the following examples may be given: *ἀνυτ-τος* becomes *ἀνυστός*; *ἀδ-τεον* becomes *ἀστέον*; *πιθ-τος* becomes *πιστός*. Similarly in Latin, *equit-ter(o)* passes into *equester*: *edti* becomes *est*: *claud-trum* is *claustrum*.

(ii) In Greek, when two aspirates occur too closely, one (ii) *Loss of aspiration in Greek:* is softened: *ἐ-θυ-θην* becomes *ἐτύθην*; *θι-θῃμι* passes into *τίθῃμι*. So also the suffix *-θι* of the imperative (Indo-European *dhi*) which is found e.g. in *κλύθι*, is changed to *τ* when another aspirate precedes, as *σώθῃτι*. Similarly when two aspirates occur in the root, one is dropped in conjugation, as from *ΘΤΦ* we have the two forms *τυφ-ω* and *θυπ-σω*. The existence of these doubly aspirated roots has been proved by Grassmann in his article already often referred to in the twelfth volume of the *Zeitschrift*¹.

To Dissimilation is also due the loss of the consonant in (and of the reduplicated syllable of many verbs which begin with initial reduplicated consonant. two consonants, as *ἔκτονα* for *κε-κτον-α*, *ἔγνωκα* for *γε-*

¹ See *Gr. Et.* 49.

γυν-κα. Perhaps too the first consonant may have sometimes fallen away even in simple nouns for the same reason : as in *ὄκνος* for *κοκ-νος*, compared with Latin *cunc-tor*, and Sanskrit *ÇANK*. But this must rest uncertain¹.

(iii) *Latin
-aris and
-alis.*

(iii) The only further example in Latin—which is not equally sensitive with the Greek in this respect—is the curious change in the termination *-aris* or *alis*, accordingly as *l* is found or *r* in the preceding syllable. Thus we have *uolg-aris*, *popul-aris*, &c. : but *mort-alis*, *later-alis*. Similarly the form *Pari-lia* sprang up beside the more difficult *Pali-lia*².

¹ See *Gr. Et.* 638.

² Corssen, i. 80; *Comp.* 267.

LECTURE XIV.

INDISTINCT ARTICULATION.

I HAVE now set before you at some length the changes *Changes produced by want of clearness in pronunciation.* arising in Greek and Latin from a weak articulation. For example, we have seen how simply through lack of energy a hard letter could be displaced by a soft, that is, a stronger by a weaker sound. This is the simplest instance of absolute weakening. Sometimes, again, we saw that a stronger took the place of a weaker sound, when that sound formed part of a compound which could be pronounced more easily after such change: here, therefore, also there was weakening; a strong contrast of sounds was done away with. In a word, the new sound or new compound was always an absolutely easier sound to pronounce.

I wish now briefly to consider a different kind of change, caused by what I call indistinct articulation. It is possible to alter a language in another way than by merely substituting an easier for a more difficult sound; in which case the new sound, weaker though it be, is clearly heard. It is possible to pronounce a word through laziness without sufficient sharpness to give each letter its full and proper sound. In this case no other recognised letter is at first heard; but an indefinite amount of indistinct sound is produced after

the letter thus slurred; which in time, if this relaxed pronunciation become common, often takes the form of the nearest sound in the existing alphabet. Thus two letters grow out of one; and a word is often actually increased; and it is not at all necessary that the new form should be really easier to pronounce than the old one. The old saying is here justified, that lazy people give themselves most trouble. For it is, I think, unquestionably the desire to save labour—to avoid the exertion required to pronounce clearly and distinctly a difficult sound—which produced this change, just as much as it produced substitution and assimilation, as we have already seen. Both kinds of change are due to that one and the same principle which causes all phonetic change.

This kind of change is familiar enough to us in daily life. It is heard when instead of "Ah!" which is really simply long *a* (sounded naturally), the vowel is heard followed by an indistinct sound, as though it were written "aw!" In producing the latter combination it is not necessary to open the lips so fully, nor to expel the breath so strongly; so there is a saving of muscular exertion: on the other hand, the sound is prolonged to an extent which at least neutralises the economy of expenditure. Similarly when a man, instead of saying "fellow" (in which the last syllable really ends with *o*) says "fellah," besides giving a stronger vowel he actually sounds that breath at the end of the word which we find somewhat difficult when we try to sound it in Indian words like "Rajah." And yet the additional sound is certainly the result of laziness. I have given a few other examples from our own language in my first lecture¹, when I was briefly mentioning this cause of phonetic change. I now proceed to give some of its more remarkable operations in Greek and Latin. It affects most (as we should naturally expect)

¹ At p. 12.

the strongest sounds, as the gutturals; or combination of sound, as e.g. *sum-sit*, causing the insertion of a non-original *p*; or, lastly, such sounds as were especially difficult to a particular people, as the spirants to the Greeks. I take first the passage of the gutturals in both Greek and Latin into the labials or the dentals.

1. *Labialism.*

This name has been given (first, so far as I know, by Professor Curtius) to the change from *K* to π and *p*¹. He ^{Change of *K* to π and *p*.} believes the change to have been produced through the influence of a parasitic *u* or *w* (*v*): *k* is the hardest of all consonants, as he says, to pronounce, and requires the most distinct articulation to keep the sound pure from subsidiary breaths. If we pronounce it lazily without fully opening the mouth, the result is that together with it a slight *w*-sound is quite unconsciously pronounced, because the lips are nearly in the requisite position for producing a labial: we get after the *k* a "labial after-sound" ("halbvocalischer labialer Nachklang," as Corssen calls it²). Other imperfect placing of the organs leads to other similar sounds, as *y*, whence arises Dentalism, which we shall next consider.

In order to make this clear, two points must be proved: first, that *v* (*w*) following after *k* could change it to *p*: next, ^{Possibility of this change.} that the *v* is really almost always adventitious, and not part of an original Graeco-Italian or Indo-European compound. The first must be proved by the exceptions to the second statement. The change does occur in a few cases where the *v* is probably Indo-European: thus the possibility of it is proved. On the other hand, it will, I think, be made clear by several

¹ See *Gr. Et.* pp. 399—426.

² 1^a. 76.

examples, taken from within the Latin itself, that this *kv* (or *qu*) was commonly later than *k*.

As the first example of original *kv* we may take the often quoted *akva*, "a horse." Here the *va* is the termination: the noun is formed from AK, and the horse is conceived of as "the swift." The *v* is found in the Sanskrit *açva*, the Lithuanian *aszva*, the old Saxon *ehu*¹. By the side of these and the Latin *equ-os* we cannot doubt that ἵππος stands for ἱκ-φο-ς; especially as the assimilated form ἱκκος is preserved in the *Etym. Mag.*²: the *ι* has sunk from the Graeco-Italian *e*. Here the original *kv* has passed into *ππ* in Greek. Rather oddly the same original form must be assumed for the cognate words in many languages denoting water; Latin *aqua*, Gothic *ahva*, and Sanskrit *ap* or *âpas*, the nominative plural, which alone occurs in classical literature: the word does not seem to occur in any simple Greek form; but Curtius conjectures, with great probability, that it occurs in the name Μεσσο-ἄπ-ιοι³, the dwellers between the two waters, on the analogy of Μεσο-ποταμία, Μεθ-ὕδ-ριον, *Inter-amna*, &c. Even the interrogative pronoun must apparently be added to this list, as having, at least, a secondary form—*kva* as well as *ka*—before the separation: whence come *qui*, the Gothic *hva*, the Sanskrit *ku-tas*, "whence," &c., and, consequently, the Greek *πο* in πό-θεν, ποῖος (πο-γο-ς), &c.: but that the simpler form *ka* still survived is shewn by its use in Sanskrit and Lithuanian, by the middle Ionic κόθεν and κοῖος, and by the fact that it was corrupted in a different way to Greek τίς and τε, which can come from *ka* but not from *kva*. Lastly, the Latin *qui-es*, Gothic *hvi-la*, would seem also to shew a second form *kvi* by the side of *ki*, whence κείμαι⁴: this is negative evidence; as the Greek never took the secondary form, naturally enough from its dislike of

¹ *Gr. Et.* 405.² *Ib.*³ *Ib.* 412.⁴ *Krit. Beitr.* 50.

spirants, it has never developed a form spelt with π . Sufficient examples have been given, I think, to shew that kv when original could pass into a labial; and Grassmann assumes in every case such a compound for the origin of the change¹. But these are nearly all the certain examples which can be given of the compound sound occurring in several Indo-European languages; and though useful as establishing the possibility of the transition, they are certainly by far too few to prove that the labial always results from an original Indo-European kv .

Next we have to shew that the v in other cases sprang *Caused by
parasitic v.* merely from phonetic causes, and was not a suffix. This will be sufficiently clear from the cases where $kv(qu)$ is found in Latin as well as $k(c)$, compared with the corresponding words in the Greek. Thus we have *sequ-or* by *sec-undus*, *coqu-o* by *coc-us*, *lingu-o* by *lic-et*², *torqu-eo* by *torc-ulum*, and many others. And corresponding to all these we find π in Greek, as $\xi\pi-\omicron\mu\alpha\iota$, $\pi\acute{\epsilon}\pi-\omega\nu$, $\xi-\lambda\pi-\omega\nu$, and $\tau\rho\acute{\epsilon}\pi-\omega$. If we were left to the Latin we might have supposed that the u was added to strengthen the present stem; but this explanation will clearly not suit the Greek. We must conclude that the v is parasitic and belongs to the Graeco-Italian time; was retained by the Latin, and indeed often introduced into words which do not exhibit it in the Greek; but in Greek the kv regularly passed on to π , because the Greeks liked distinct pronunciation, and disliked "irrational" sounds, of which we saw so much in the Latin in an earlier lecture. That the Greek π is really the equivalent of Latin qu cannot be doubted even from the examples I have given: there are more in which neither language has kept the original k , as $\pi\acute{\epsilon}\mu\pi\tau\epsilon$ (Aeolic) and *quinque*. In other cases the Latin has kept the simple form, whilst the Greek shews the weaker;

¹ So also Leo Meyer, i. 29—31.

² *Gr. Et.* 406.

such are *uoc-o* by *ῥέπ-ος*, *oc-ulus* by *ὄπ-τομαι*; compare ΣΕΠ in *ἔσπετε νῦν μοι, Μοῦσαι*, with *SEC* in Livius' translation of the first line of the *Odyssey*, "Virum mihi, Camena, insece uersutum¹." These changes cannot be called peculiar to any dialect in Greek; they are quite sporadic, occurring to some extent in all. But in Italy the line is pretty sharply drawn; whilst the Latin has only *qu* or the original *c(k)*, the other Italian dialects often only have *p*. Thus *pid* is Oscan for *quid*; *pumpe* is Umbrian for *quomque*: "four" is *petora* in Oscan, *petur* in Umbrian; *pontis* or *pomptis* is "five" in Oscan: and it is interesting to see the provincial names formed from these numerals, as Petronius and Petreius corresponding to the Latin Quartus, Pontius and Pompeius to Quintus: *petorritum* too seems to be simply a "four-wheeler²." It is probable that Epona may be a Sabellian form of the horse-deity: also that *palumbes*, *popina*, are Sabellian in their origin, the Latin forms being *columba* and *coquina*; and I would suggest the same explanation of *lupus*, compared with *λύκος* and Sanskrit *vṛika*; the wolf was not likely to be so formidable in the plain of Latium as in the central highlands, so that the Latin form may have fallen into disuse and been superseded by the Sabellian. Curtius³ allows here an exception from his ordinary stringent rule that both sound and sense must agree when we attempt to identify words in different languages. Schleicher with great consistency denies the connection, and betakes himself to the Zend *u-rup-is*⁴, and derives both from RUP (LUP), to cut, which seems to me an infinitely improbable conjunction. At all events *p* for *k* was extremely rare, if not wholly unknown, in Latin.

¹ Compare also Plaut. *Miles G.* 1220; cum ipso pol sum secuta: which is altered by Fleckeisen to *locuta*.

² Mommsen, *Unterit. Dial.* p. 287—289.

³ *Gr. Et.* 76.

⁴ To which *Lupus* "wol one Zweifel gehört," (*Comp.* 241). Schleicher's

The symbol Q is nothing but the Greek Φ , and was received with the rest of the Doric alphabet from Cumae. So ^{History of the Latin Q.} Quintilian speaks of Koppa as "similis effectu specieque, nisi quod paulum a nostris obliquatur¹." In the same passage, however, it is spoken of as redundant; the reason is that U was commonly written after it in Latin to denote the labial after-sound; and therefore practically Q denoted no more than K. But in old Latin the U was omitted, at least when another U followed: thus we find *pegunia* in the Bantine Law², and other inscriptions of the same age, *Mirqurios*³, *oquoltod* (i.e. *occulto*), &c.; and Corssen points out⁴ that this practice was even extended under the Empire, as shewn by these forms found on inscriptions, *qis*, *qaerella*, *negidem*, &c.: but this probably was only a caprice of grammarians who wished to give the symbol some special use, and never became general. I have already mentioned⁵ that when *o* after *qu* passed in the regular course of weakening into *u*, *qu* was again written as *c*, in order to avoid the *uu*, as *cum*, *locuntur*, *ecus*, &c. When the Italians, who did not possess the symbol, borrowed a Latin word in which it occurred, they transliterated it by *kv*; thus *kvaisstur* is Oscan for *quaestor*: the Greeks denoted it by *kov*, as *Kovipivos*, by *ko* as *Koivros*, but by *kv* regularly as *Tapkvivos*⁶. The Latin grammarians seem to have perfectly understood the nature of the symbol QU, when they decided that the U was neither a consonant nor a vowel: it was not a consonant, because in that case the *e* in *equites* must have been long; it was not a vowel for that would have lengthened the second syllable by crasis with *i*. In other words the U was merely a symbol, expressing further and somewhat unnecessarily the indistinct mode of writing German corresponds to his subject; it is phonetic, and at first remarkably puzzling.

¹ I. iv. 9.² Mommsen, *Corpus*, no. 197, p. 45.³ *Ib.* no. 59.⁴ *Ib.* 72.⁵ See p. 188.⁶ Corssen, *Ib.* 74.

after-sound which made Q different from K. This sound, as I have said above, was liked by the Latins, and therefore they retained the koppa. The Greeks did not use the sound, and therefore soon dropped the symbol which they had taken from the Phoenician alphabet; it could never have been of use to them, for there is no trace of any period in Greek during which κ was passing into π : the transition would seem to have been immediate. It is this transitional sound which the Latin Q represents; only the transition was never accomplished in Latium, though it was in the rest of Italy¹.

Change of
G to β and
b.

Exactly analogous to the change from K to π and p is that from G to β and b ; and here also we have the middle step denoted by the Latin *gu*. Here too the *u* is not parasitic in every case; thus in *pinguis* the *u* is a suffix, found in $\pi\alpha\chi\text{-}\acute{u}\text{-}\varsigma$, and a new suffix has been added in the Latin; similarly in *brevis* for *bregu-u-is* ($\beta\pi\alpha\chi\text{-}\acute{u}\text{-}\varsigma^2$). But it is parasitic in *tinguo*, the Greek $\tau\acute{\epsilon}\rho\gamma\omega$, in *urguere*, where the language has presented the simpler form *urgere*, &c.³ Rather frequently the *v* has forced out the preceding *g*, and thus given rise to an apparent strengthening; in reality there is a loss. Such cases are *uiuere* for *guig-u-ere*; compare the old Norse *kvik*, our old English "quick," and Sanskrit *jītv*⁴; *bre(gh)uis*, &c. mentioned above; in these the *v* is original. In *fruor* for *frugu-or* (*frug-es*) both *g* and *v* have fallen out. The Latin words so far have no Greek equivalent which shews any corresponding change. But answering to *uor-are* for *guor-are* (Indo-European GAR) is Greek $\beta\omicron\pi\text{-}\acute{\alpha}$, where the guttural has passed into the labial: (*g*)*uen-ire* is in Greek $\beta\alpha\acute{\iota}\nu\epsilon\upsilon\omega$ for $\beta\alpha\upsilon\text{-}\gamma\epsilon\upsilon\omega$, and the original guttural is kept in

¹ In the few Doric inscriptions where ϕ is found, it seems to be generally followed by *o*, see Ahrens, II. 88, and *New Cratylus*, p. 190. This seems to be an attempt, similar to the Latin, to express the after-sound more clearly.

² Corssen, I^a. 85.

³ *Krit. Beitr.* 65, &c.

⁴ I think that Corssen is right in thus explaining the word (*Krit. Beitr.* 72), as opposed to Curtius, who treats the *g* itself as parasitic (*Gr. Et.* 527).

Gothic *kriman*, our "come." The Latin, on the other hand, shews no change in *gravis*, where the Greek has *βαρύς*: but the Sanskrit is *guru*, so the *u* may be original, or at least there may have been a by-form *guar*; and in the Greek itself we have the Boeotian *βανά* by the side of *γυνή*, shewing that the old form must have been *γυνā*, the Anglo-Saxon *cwena*, our "quean." Perhaps the only certain case in which both languages have the labial is the certainly Graeco-Italian *bov-*, "a cow:" here all the other languages have the guttural; the Sanskrit is *gdus*, the German *kuh*. These examples are sufficient to shew that the *v* is less frequently a mere Graeco-Italian sound after *g* than after *k*, as might have been expected from *g* being a softer and easier sound: but it certainly was so in some cases; and, whether original or parasitic, it equally had the power in Greek of turning the guttural into a labial. The Italians seem to have stopped at *gu*, as the Latins did at *kv* (*qu*).

The same cause will probably account for the rare change ^{Change of GH to φ.} of the guttural aspirate in Greek. It becomes φ in *νίφ-ειν*, from the original root SNIGH¹. Perhaps also *ἐλαφ-ρός* may exhibit a weaker form of the base which we see in *ἐλαχύς*: the *v* is there, which in Latin *le(gh)u-is* has been strong enough to eject the guttural altogether. I have already mentioned the not unfrequent change in Latin from *gh* to *f* in my account of the Latin Aspirates², and said that the same explanation is possible; it rests principally on analogy, there being no middle step preserved by the Latin, as in the case of the unaspirated gutturals. But I know no other explanation which is at all probable.

¹ See p. 69.

² See p. 241. More examples (not all very certain) are to be found in Corssen, *Krit. Beitr.* 203—226.

2. *Dentalism.*

*Change of
K to τ.*

This change from K to τ is much less frequent in Greek. In Latin it does not seem to occur, except in the late transition of *-cio* into *-tio*, &c.¹, which is caused by the *i* being really a semi-vowel when another vowel follows; in these cases it is of course part of the suffix. So also was the *ω* (*yo*) in Greek, which we saw produced so much change among the Greek verbs; as for example, *πακ-γω* became *πατ-γω* and *πάττω*. These examples are quite enough to shew that *y* really has the power of turning a guttural into a dental: and justify us in assuming a parasitic *y* in cases where the change has happened in Greek without any suffix to explain it: especially when traces of the same action are discernible in the cognate languages. An undoubted middle step is given by the Sanskrit palatal *ch*, which is pronounced half way between the guttural and the dental, and was probably caused by an attempt to sound *k* without bringing the tongue far enough back, so that the organs are partly in the position for sounding *k*, partly in that which produces the palatal breath *y*, which therefore slips out involuntarily after the imperfect *k*, and the whole result is *ch* or, perhaps better, *tsch*, if we pronounce the *t* and *s* very quickly. In the examples which I am about to give from the Greek, the *y* does not seem to have been very fully heard, though it had the power to change the *k* to τ and then fell out: so that the order of sound was *κ, κy, τy, τ*². In the verbs and nouns mentioned under the head of assimilation, where the *y* was part of the suffix, it left a permanent trace of itself in the doubling of the consonant. This difference of result in the cases where the *y* was radical, and where it was only parasitic is, I think, no more than we should expect.

¹ See p. 277.

² See Introductory Lecture, p. 12.

The certain examples in Greek are not very numerous, and have indeed been mostly mentioned before. Thus *τέσσαρες*, and Sanskrit *chatvāras*, are instances of Dentalism, though we saw that the Italian dialects gave us the labial in the same word. These numerals were of course peculiarly liable to corruption: they are almost the commonest currency of language: from their being necessarily used in barter they are liable to foreign influence more than any other words: a fact which may be the key to the perplexing agreement of numerals in totally distinct languages, and to the strangely-altered forms of some of the Sanskrit numerals. This numeral, *katvar*, of the Indo-European had apparently two separate indistinctly pronounced forms before its separation *kyatvar*, whence *τέτταρες*, and *kvatvar*, whence *quattuor*: unless we rather believe that these weakenings took place after the ultimate separation, and so the agreement of *τέσσαρες* and *chatvāras* would be accidental: this is most probable, for the Graeco-Italians are not likely to have had more than one form. Just the same variety of the Greek and Latin forms is seen in *τίς* and *quis*, where the Sanskrit has the original *k* in *kis*; parallel however to *te* and *que*, which are probably from the same base, the Sanskrit has *cha*, corresponding again to the Greek. Lastly, *τελω* corresponds generally to Sanskrit *CHI*, so that here also we have probably an instance of dentalism: no Latin word can be connected with these: for that *timeo*¹ belongs to the same family seems unlikely both from its meaning and from the *t*, for there is no evidence of the *t* occurring for *K* in Latin: both *τίω* and *chi* have many meanings, but the radical idea seems to be to "search," and then "tell over," "count;" and so in Greek "to estimate," "honour;" in Sanskrit to "collect." These forms are all which are given by Curtius as certain²: and he observes that in all of them the original *k* was followed by either *ι*,

¹ Benfey, *Sk. Lex.* s.v. *chi*.

² *Gr. Et.* 426—430.

or the cognate ϵ ; a fact which would very much assist the slipping in of the parasitic sound.

Change of
G to δ .

The change from G to δ is exceedingly rare and uncertain, occurring mostly in isolated dialectical forms. Curtius, however, explains though somewhat doubtfully by this process the verb $\zeta\acute{\alpha}\omega$ ¹. This is for $\delta\iota\acute{\alpha}\omega$ by the regular process of Greek assimilation². This $\delta\iota$ he would connect with GI, the simpler form of the old root which appears lengthened in Sanskrit, as $J\bar{I}V$, and probably labialised in Greek, as BIF in $\beta\iota(F)\omega\varsigma$, &c. If it seem odd that the same root should have been both labialised and dentalised in Greek, so as to produce the dissimilar forms $\beta\iota\acute{\omega}\omega$ and $\zeta\acute{\alpha}\omega$: this is no more than certainly took place in the interrogative pronoun: from which come the two Greek derivatives $\tau\acute{\iota}\varsigma$ and $\pi\acute{o}\iota\omicron\varsigma$. The probability of the derivation is increased by the form $\delta\iota\text{-}\alpha\iota\tau\alpha$, where the $\delta\iota$, perhaps through the influence of the following diphthong, has not been affected. Some cases where γ passed into δ by assimilation have been already mentioned.

Change of
GH to θ .

The aspirate GH has passed into θ in $\theta\epsilon\rho\mu\acute{o}\varsigma$ already mentioned by the side of the Sanskrit *gharma*. It is *jormus* in Latin, but we have seen that *f* is the regular representative of initial *dh*, which was probably the Graeco-Italian form. No other example of this form seems to be certain³.

Change of
D to *b*.

There are in Latin one or two well-known examples of the transiti n from D to *b*. These are *bis*, the older form *duis* (which is also the Sanskrit form) being given by Festus⁴: here the *u* is part of the root, and is seen in *duo*, *duplex*, *du-bius*, &c. Again, the old form of *bellum* is *duellum* "division:" *duellatores* occurs even in Plautus⁵; and *bonus* was originally *duonus*, already quoted as occurring on

¹ *Ib.* 431.

² *Gr. Et.* 433.

³ See p. 271.

⁴ Corssen, *l.* 125.

⁵ *Capt.* 68.

the epitaph of Scipio. Here the *u* may have been either radical or parasitic; the derivation is uncertain. Corssen (*l. c.*) thinks that it was "irrational" for all, which seems very improbable. But there can be no doubt that in all the *w*-sound assimilated the *d* to *b*, and then passed out or combined with it as Corssen prefers to explain it. I know no certain examples in Greek: Curtius mentions some very dubious ones¹.

3. Parasitic *d* before *y* or *i*.

This peculiar change has been for the first time thoroughly investigated by Curtius². I think that some of his conclusions are doubtful, and particular points have been assailed by different critics. Of the main principle however I think there can be no doubt, though it may be wrongly applied in special cases. I will give you the main results to which Curtius comes and the commoner examples: those who wish to see the further evidence supplied by uncommon forms and glosses must find it in his own pages.

We saw that δy could frequently change into ζ in verbs, where δ was the termination of the root, and *y* the initial letter of the suffix: *y* passed into the weak dental spirant *z*, by assimilation, and thus for δy we had *dz*, that is ζ . So $\phi\rho\alpha\delta-y\omega$ became $\phi\rho\acute{\alpha}\zeta\omega$: and there are numerous examples of nouns where the same change took place. Thus *Zeús* was for $\Delta yeus$, from DIV or DYU: $\delta i\acute{\alpha}$ became $\zeta\acute{\alpha}$ in the Lesbian dialect³: $\acute{\alpha}\kappa\upsilon\nu\theta\omicron\varsigma$ may be $\delta i-\acute{\alpha}\kappa\upsilon\nu\theta\omicron-$, "the thorny island",

The apparent change of Y into ζ.

¹ *Gr. Et.* 424.

² *Gr. Et.* 550—583.

³ So $\zeta\acute{\alpha}$ τὰν σὰν ἰστέαρ, Theok. xxix. 6: see Ahrens, i. 45.

⁴ We might compare "Thorn-ey" near Ely, but perhaps Thorn is here the proper name which occurs so often in the North of England, e.g. in Thorn-by, Thorn-thwaite: see Ferguson's *Northmen in Cumberland and Westmorland*, a book distinguished by method and sound judgment.

on the analogy of *διανθής*, *Διακρία*, &c.¹: and the same form ζα is found as an intensive ("through and through," "thoroughly") in Greek commonly as *ζάθεος*, *ζαμενής*, &c. Again, *πεζός* is *πεδ-ιος*: *ἀρίζηλος* is *ἀρι-δγηλος*, perhaps as Curtius suggests for *ἀρι-διF-ηλος*; *ρίζα* is *φριδ-γα*, &c. In all these examples the δ is radical, and the ζ therefore to be expected. But how are we to explain forms like e.g. *ζυγόν*? This is from YUG, and all the cognate languages give us *y* or its regular substitute. It seems impossible to avoid the conclusion that this ζ is another variation from original *y*, another attempt to avoid the disagreeable sound which resulted in a weak δ being heard before it: ζ therefore, that is *dy*, is not a substitute for *y*, but the combination of *y* with another involuntary sound. Here the fact is undoubted, and the explanation seems to me the best possible. The *dy*, according to Curtius, passed into different forms, which I will give in order.

*Y with
parasitic
δ appears
(i) as ζ;*

(i) *dy* appears as ζ: in *ζυγόν*, in *ζεά* or *ζειά*, the Sanskrit *yava*, in *ζημία* from YAM, which occurs in Sanskrit in the general sense of "restraint:" a regular substitution from the same root gives us *ήμερος*, and it is not impossible that *ήν-ια* may be from the same root by the change, rather common in Greek, of μ to ν. Again we have *dy* as ζ in *ζωμός* and *ζυμή*, compared with Sanskrit *yāsha* and Latin *ius*. In none of these is there radical δ; which therefore must be supposed to be produced involuntarily. Next Curtius explains in this way with great probability the double verb-forms in *αζω* and *αω*, &c. I have already often mentioned that *αω* is a modification of original *αγα* or *αγο*, the *y* having fallen out: but it is quite possible that before it fell out it may have engendered a preceding δ from the neglect of clear pronunciation: thus *ἀντι-αγο-μι* would become *ἀντι-αγω*, and on one side *ἀντι-άω*, on the other *ἀντι-αδγω* or *ἀντιάζω*. This

¹ Gr. Et. 544.

etymology seems to me peculiarly ingenious, and will explain all cases where the double form occurs: though in some of course it is possible that the δ may be radical, as $\lambda\theta\acute{\alpha}\zeta\omega$ from $\lambda\theta\alpha\delta$ -. It also explains the numerous verbs in $\iota\zeta\omega$; thus $\acute{\upsilon}\beta\rho\iota\acute{\iota}\zeta\omega$ is $\acute{\upsilon}\beta\rho\iota\delta\gamma\omega$ from $\acute{\upsilon}\beta\rho\iota-\gamma\omicron-\mu\iota$.

(ii) $\delta\gamma$ takes the form of $\delta\iota$. This is principally in the (ii) as $\delta\iota$; termination $-\delta\iota\omicron-$, which is not of very common occurrence, it occurs in $\rho\eta\acute{\iota}-\delta\iota\omicron\varsigma$, $\acute{\alpha}\iota-\delta\iota\omicron\varsigma$ from $\rho\acute{\epsilon}\iota\alpha$ and $\acute{\alpha}\epsilon\iota$ respectively; in both the combination of vowels would be difficult to sound, before the termination $\gamma\omicron$ or $\iota\omicron$, and hence according to Curtius the parasitic δ arose between them: wherever $-\delta\iota\omicron\varsigma$ occurs it is always preceded by a vowel. It forms adjectives from some roots under the like condition, as $\sigma\chi\acute{\epsilon}-\delta\iota\omicron\varsigma$, $\acute{\alpha}\mu-\phi\acute{\alpha}-\delta\iota\omicron\varsigma$, $\sigma\tau\acute{\alpha}-\delta\iota\omicron\varsigma$ &c.¹ Curtius combines with these the form $\acute{\iota}\delta\iota\omicron\varsigma$ as the possessive pronoun of the third person for $\sigma\phi\acute{\epsilon}-\delta\iota\omicron\varsigma$, through $\phi\acute{\iota}\delta\iota\omicron\varsigma$: the weakening of the ϵ to ι might be explained by assimilation, as in $\sigma\phi\acute{\iota}\sigma\iota$ for $\sigma\phi\epsilon-\sigma\iota$. This derivation is very probable: but the δ might be part of the root which probably ended in d in Graeco-Italian, if we may judge from *med* and *ted* which are accusatives as well as ablatives in Plautus²: also the Sanskrit adjectives are *mad-īya* and *twad-īya*: and so Bopp explains it. Benfey regards all the terminations in $-\delta\iota\omicron$ as weakened from original $-\gamma\iota\omicron$.

(iii) $\delta\gamma$ appears as $\delta\epsilon$. This is limited again to a few (iii) as $\delta\epsilon$; nouns in $-\delta\epsilon\omicron\varsigma$, as $\acute{\alpha}\delta\epsilon\lambda\phi\acute{\iota}-\delta\epsilon\omicron\varsigma$. Certainly here at least the δ is not radical: though here also we might assume an original $\gamma\iota\omicron$.

(iv) $\delta\gamma$ loses the original γ and only the parasitic δ is (iv) as δ . left. This is more certain than the last two cases, at least in dialectical forms as the Boeotian $\delta\upsilon\gamma\acute{\omicron}\nu$ for $\zeta\upsilon\gamma\acute{\omicron}\nu$, $\iota\epsilon\rho\acute{\alpha}\delta\delta\omega$ for $\iota\epsilon\rho-\alpha\delta\gamma\omega$ or $\iota\epsilon\rho-\alpha\gamma\omega$. The occurrence of $\delta\upsilon\gamma\acute{\omicron}\nu$ beside $\zeta\upsilon\gamma\acute{\omicron}\nu$ and the Latin *iug-um* seems to me to make the evidence for

¹ Gr. Et. 557.

² e.g. Aul. 120.

the theory complete in that case. This involuntary δ is further assumed by Curtius in several dubious words. Such are the particle $\delta\eta$ which he explains as originally $(\delta)y\bar{a}$, from the pronominal base ya , so that the meaning would tally with that of the German "ja," our "yea:" $\eta\delta\eta$, as he thinks, stands to $\delta\eta$ as $\eta\mu\eta\nu$ to $\mu\eta\nu$. Corssen¹ connects $\delta\eta$ and $\delta\eta\nu$, and also the Latin suffixes *-dum*, *-dem*, *-do* &c. with the *diu* "a day," I think less probably: though *diu* is certainly from that base and means originally "all day." In such forms as these the derivation must be always uncertain; there is no necessary correspondence as to meaning to guide us, and the words being common have probably suffered so much from use that their original form also must be guessed at. Curtius explains in the same way the rather numerous adverbs in *-don*, *-den* or *-da*², which he regards as originally cases from adjectives in ya , with parasitic δ , like those which end in *-dios* or *-deos*, except that here all trace of the y is lost. Thus we have *σχεδόν* by *σχεδίην*³: *κατωμαδόν* by *κατωμάδιος*: and the variation between *ἄδην*, *ἄδην* and *ἄδδην* would be explained by an original form *σα-(δ)γην*, where the y either fell out without trace leaving the preceding vowel short, or after lengthening it⁴, or finally was assimilated to

¹ *Krit. Beitr.* 500.² *Gr. Et.* 570.³ *Il.* v. 830.

⁴ This without doubt is the explanation of *καλός* and *καλός*, *ἴσος* and *ἴσος*. They are by-forms and were produced in a transitional period; each survived in the language, and therefore there is nothing strange in our finding both even in the same line (as Theok. vi. 19; viii. 19). Similar variations in Latin are not so easy to explain: a great list is given by Lachmann (on Lucr. i. 360) but with no explanation: see also Munro on Lucr. iv. 1259. In the common cases such as *niger*, *nīg(e)ri*, no doubt even after the e was omitted in writing, enough of its sound was retained in the r , to allow the root vowel to be pronounced short or long. In *pāsus*, *pāsillus* &c. the cause is clearly accent. Lastly where the same word occurs both long and short, e.g. *cōturnix* and *cōturniz*, *uīetus* and *uīetus* &c., I think that in nine cases out of ten the change is from long to short: so that the new form would represent that regular weakening of the ordinary Latin of which I have said so much. But there are other cases which cannot be so explained.

the δ , as in *ιερᾶδδω* (see last page). Similarly the suffixes *-δε* and *-ξε* would be explained as modifications of $(\delta)y\epsilon$ from the pronominal root *ya*. Lastly the same involuntary δ , which has expelled its parent *y* is assumed by Curtius to explain patronymics in *-δα*, names of beasts in *-δευ*, nominal bases in *-αδ-*, and *-ιδ-*: that in these last the δ was no essential part of the suffix is proved he thinks, by the double forms, e.g. *μῆν-ι-ος* and *μῆν-ιδ-ος*, *σφράγιω* and *σφραγιῖδα* &c.: he believes the suffix *ι* to have been originally long; it then necessarily parted into *iy* before case-suffixes beginning with a vowel, as is regularly the case in Sanskrit (e.g. *bhṛt*, *bhṛty-as*); and so as elsewhere a δ sprang up before this *y*.

These are the principal cases in which Curtius assumes his parasitic δ . The strongest argument for his view is well stated by Schleicher¹: "in the stem-formations of the Indo-Germanic, *y* is an extraordinarily common, *d* is a rare element, so that there is hardly another possible way of bringing these Greek formations into harmony with those of the kindred languages." This consideration must at least prevent us from regarding the assumption as merely arbitrary: and it is much more improbable that in every case δ should be weakened from τ , a weakening for which the Greek shews no special liking. The argument brought against the theory that it is improbable that one and the same sound should appear in so many different forms, is answered, I think, with great force by Curtius. He says²: "the less we regard as probable an isolated deviation with no apparent reason from the path of regular substitution in the case of those sounds which remain to all time in common use in a language, so much the more decisively may we allow sporadic variation for these sounds in it which we perceive to be from the very beginning vanishing out of it."

*Estimate
of the pro-
bability
of these
changes.*

¹ *Comp.* 216.

² *Gr. Et.* 559.

Such a sound is especially *y* in Greek: in the earliest records of the language we find only the imperfect substitutes for it: and it is certainly not improbable that at a still earlier period, when it was still heard, the imperfect attempts at pronouncing it may have produced by its side a letter which is itself indistinctly sounded in Greek, and so in process of time out of these two indistinct sounds, one distinct sound may have arisen. At all events, as Schleicher prudently sums up, "what every one allows in some cases (*ζυγόν*, *δυγόν*, and *χθές* for *ghyas*) is also possible in others."

4. *Parasitic y.*

*Parasitic
y after δ.*

This is principally found after *δ*, and therefore produces the same results as parasitic *δ* before original *y*; but they are much fewer, for *y*, a sound difficult to a Greek, was not very likely to spring up involuntarily, and clearly could only do so in that early prehistoric time when *y* had not yet vanished out of the language; so the traces of it are few. It seems to occur in *ζορκάς* (Herod. iv. 194), the dialectical form of *δορκάς*, where the *δ* is original; and rather oddly in the same word the *y* seems to have expelled the *δ* and then vocalised itself, for we have the third form *ιορκ-ες* (nom. plur.) in Hesychius¹. On the strength of a gloss in Hesychius, *δείκηλα*, *εἰκόνες*, and the form *δείκελον*, which occurs (*Anth. Pal.* v. 260) in this sense, Curtius believes that the original form of the common root IK, whence *εἰκών*, *ἔοικα*, *ἕκελος*, &c. was ΔIK, which produced a parasitic *y* and then vanished; so that *οὐδὲ ἔοικεν* in Homer should be scanned *οὐδὲ γέγοικεν*, not *ἑῖφοικεν*²: this I think is very probable, for there is nothing in the cognate languages to justify a digamma in the word. Lastly, as *δy* where the *y* was radical was some-

¹ *Gr. Et.* 586, &c.

² As stated at p. 118.

times assimilated to δδ, so here also we may explain the peculiarities connected with ΔΙ, "to fear." Thus ἔδδεισεν is frequent in Homer, and frequent too is the lengthening of a previous short syllable, as μέγα τε δεινόν τε¹, and οὔτε τί με δέος ἔσχευ². These become quite intelligible on the supposition that γ was produced involuntarily after δ, so that δέος was δγέος: and no other theory that I know will explain ἔδδεισεν: for I suppose it does not explain much to call it a "poetical license." What will explain the "license" itself? Further examples (not perhaps equally certain) may be found in Curtius³.

5. *Aspirating unaspirated letters.*

This takes place to some extent in Greek. The new *h* Involuntary aspiration of hard letters; found in Sanskrit and in Greek. is clearly parasitic, and produced (when not initial) by letting as it were a sigh of relief escape after the pronunciation of a difficult sound. As might be expected, it follows almost exclusively the hard explosive sounds. Some of these cases have been mentioned incidentally in the account of the Greek aspirates; the theory of their origin is considerably confirmed by the occurrence of this involuntary aspiration. A similar phenomenon is found in Sanskrit; and it may sometimes happen that the same word has been aspirated in the two languages. But there can be little doubt that such coincidences are accidental, and that each language pursued its own course separately in this respect. The aspirates thus found in Sanskrit corresponding to the Greek are always hard ones.

The commonest cause of this parasitic *h* is the influence of an adjoining liquid or nasal, or a preceding σ⁴. Thus we

¹ Il. xii. 10.

² Gr. Et. 588—590.

³ Il. v. 817; Gr. Et. 585.

⁴ Gr. Et. 440.

find *φροῖδος* from *πρό, ἐπίβα-θρον* instead of the common suffix *-τρον*, with *κλείθρον* and some others: the fact that we have sometimes *τρον* and sometimes *θρον*, with no apparent reason for the difference, shews how thoroughly sporadic the change is. We have *τέφ-ρα* from *TEP*, whence Latin *ter-eo*; the Sanskrit keeps original *a* in *tapas*: *λύχ-νος* from *λυκ-, ἐξαι-φνης* from *ἐξαπίνης*, where the nasal is the cause; so also *ἔγγος*, (where the nasal seems to be intensive, as the base is probably AK,) *ρύγγος* but *ρέγκω, ὀμφ-ή* from *FEΠ*; and several others given by Curtius (*l. c.*). The spirant has acted in *σχίζα* from *SKID*, Latin *scindo*; probably in *σθέ-νω*, if this be a strengthened form of *STA*, which in Sanskrit becomes *STHA*; in *σχελίς* by *σκελίς* and *σκελος*, and many others.

In other cases it is not easy to assign any further cause than mere laziness; which operated of course irregularly, but yet affected some words permanently. Such are *βλέφαρον, σοφός*, and *σαφ-ής*: the two latter are from *SAP*, in Latin *sapio*, &c. Curtius rejects Benfey's explanation that the *h* may be caused here by a *v*; that *βλέφαρον* is for *βλεπ-φαρο-*, for *-vara* is at least a Sanskrit suffix; and *σοφός* is similarly for *σop-φο-ς*: it seems to me not improbable, at least for the first two, and *σαφής* may have been formed on the analogy of *σοφός*. I know of no reason for the certain change of *ΔEK* into *δέχ-ομαι*, *ΤTK* into *τεύχω*, of *πτυκ*, from original *ΠTK* in *πτύσσω* into *πτυχή*. The change of the labial is much more common; thus *ἄφ-ενος* is the Sanskrit *ap-nas*, which is Vedic, but occurs in *apnas-vant*, "efficacious", and the Latin *op-s*, &c.; contrast *in-ops* with *apnas-vant*; *κορία* is *co-opia*¹. From *ΛΙΠ* comes *ἀ-λείφω*, from *ΣΚΑΠ* *σκάφος*, and *τρέφω* may be only a secondary form of *τρέπω*: further examples may again be found in Curtius.

No certain There is no certain example of this *h* being produced

¹ Benfey, *Lex.* s. v.

² *Gr. Et.* 447.

after a soft explosive sound. Several possible ones are discussed by Curtius¹. But for all of them I think other explanations are possible. Thus *ῥαχλα* certainly needs not be connected with *ῥαγ* (*ῥήγνυμι*), it being quite possible, as Curtius suggests, to class it with *ῥήσσω* (*ἀράσσω*), which imply a *κ*, or even with Hesychius' gloss *βρακίαι οἱ τραχεῖς τόποι*. Curtius seems to allow the change in *παχύς*, which he combines with *πήγνυμι*, *πηγός*, *πάγος*, &c. But here also we have seen that the older form of the root is *ΠΑΚ*²: so that *παχύς*, *πάχ-νη*, &c. may be formed by aspiration directly from this original form.

All these aspirated words must be kept distinct from those where the aspirate is original; they may be known by the fact that the aspirate (or the regular substitute) occurs in none of the cognate languages, except in some few cases in the Sanskrit, which shared with the Greek these peculiar hard aspirates.

In Latin, where the aspirates had early vanished, no change of the sort was likely to take place. But both in Greek and Latin irregular aspiration at the beginning of a word seems to have been known. I have already said that this is possible among people who are in the habit of leaving out the breathing where it ought to occur at the beginning of a word; and both Greeks and Romans were in the habit of doing this. Different as was the origin of *h* in the two languages, it is quite certain that the letter was rapidly vanishing in each of them at the classical period of their literature, or even earlier; and the tendency has gone on increasing among the inheritors of these languages, till, for the modern Greek at least, the sound is utterly lost, while the Romance languages have partially preserved it, with great irregularity of usage. Still there is also an unmis-

example of the aspiration of soft sounds.

Aspiration in Greek and Latin at the beginning of a word.

¹ *Gr. Et.* 450—458.

² See p. 223.

able tendency to introduce the breathing where it ought not to be, as distinct though less frequent in its operation than the other. First, in Greek, apart from numerous plain errors on inscriptions, such as *ἀγῶν, ἐπὶ, εἴς*, &c.¹, we may observe a strong inclination to aspirate an initial *v*; e.g. in *ῥῥῶρ, ῥῥό, ῥῥερος*, &c. where it is certain that there was no aspirate in the original language. This seems to me very natural. We have seen that the Greek *v* was a modified *u*, probably like the German *ū*; and it will be evident to any one who makes the attempt how difficult it is to pronounce the sound without a breath slipping out involuntarily before it: and in exact accordance with this theory the Boeotian, which keeps the old sound, and denotes it by *ου*², keeps the proper smooth breathing; e.g. in *οὐμέτ, οὐῶρ*, &c.³: although in other words the Boeotians were by no means peculiarly averse to the rough breathing, even inserting it in words where it was absent in other dialects, as *ῥων* for *ῥω*. The Aeolic, however, in the main inclined most to drop initial *h*: the Attic retained it most, and also used it most often wrongly; thus the Aeolic keeps *ἄμμετ* for *ἀσμέτ*, while the Attic aspirates, as *ῥμεῖτ*. I agree with Curtius here in regarding the rough breathing as a simple mistake, on the analogy of *ῥμεῖτ*, where it denotes a lost *y*⁴, rather than suppose that it is due to the *σ* passing into *h*, as *ἄμμετ*, and then becoming misplaced: as he says, the *σ* does its part in lengthening the preceding vowel, and therefore would have exerted a double influence if it had become the breathing as well. But I think the theory more probable in the case of *ῥμαι*, from AS, as I have already said⁵; and some other words, as *ῥερός* for *ῥαρός*, Doric *ῥαρός*, Sanskrit *ishira*⁶.

¹ *Gr. Et.* 617.² See p. 158.³ See Ahrens, I. 169.⁴ *Gr. Et.* 619.⁵ See p. 230.⁶ See *Gr. Et.* 358. This rare Sanskrit word is said to mean "strong," "sound," "fresh," and so we are enabled to get at the primary sensuous

Still many cases remain where no explanation can be given, except that they are mistakes. Such are the already often-quoted ἵππος (compared with ἵκκος, and the compounds Λεύκιππος, Ἀλκιππος¹); the Attic ἥλιος and εἰός, which have the smooth breathing in all the other dialectical forms: and Curtius suggests that the rough breathing of ὄρος, "a boundary" (Ionic οὔρος, Doric ὄρος), may have sprung up through a wish to distinguish it from ὄρος, "a mountain": but another derivation is possible. Lastly, Curtius gives the Attic ἀμαρτεῖν, whereas Homer said ἡμβροτον. These examples—all common words—are enough to shew the prevalence of the error: the deviation of the last one is somewhat uncertain; but as to the others there can be no reasonable doubt, from comparison with other languages and dialects, that they commenced originally with the smooth breathing, and that the rough *h* is a Greek, generally Attic, addition.

In the Latin this corruption seems to have been of later date. According to Corssen², *h* is never wrongly inserted in the inscriptions of the Republic. The grammarians however of the first century B.C., and the early Empire, seem to have been very uncertain in their deliverances on the subject: still where wrong, they err almost entirely on the side of leaving out an *h* which is etymologically correct. The feeling on the point is well shewn by the often quoted dictum of Nigidius Figulus: "Rusticus fit sermo, si aspires perperam." In conformity with this we find that in the best and oldest MSS. the *h* is often wrongly omitted, as *arena*, *aruspex*, &c.: rarely wrongly inserted, as in *humor*, *humerus*,

meaning of *ιερός* and explain the use in certain combinations which are unintelligible so long as we have only the derived sense of "sacred," e.g. *ιερόν ἡμαρ*, *ιερός δῆμπος* (Soph. *O. T.* 1428), and even *ιερός λχθός* (*Il.* xvi. 417), and *ἵπον κῶμα* (Eur. *Hipp.* 1216), Lidd. and Scott, s.v. Thence as what was consecrated to the gods must be sound and perfect, the word came early in Greek to mean "sacred."

¹ Schleicher, *Comp.* 219.

² See p. 84.

³ *Ausspr.* i². 105.

&c. These however are trifles to the extraordinary blunders committed by the stone-masons in the inscriptions of the fourth century of the Christian era: such as *hac* for *ac*, *hornat*, *hextricata*, *exhistimantes*, &c., quoted by Corssen¹. Still this effusion of aspirates was certainly late: and Catullus' foe, Arrius, was probably an exception².

6. Auxiliary (inorganic) vowels.

*Character
of these
sounds:
most com-
mon in
Greek.*

These vowels are perhaps the farthest extension of the principle which we are considering. They frequently appear to be actual gain, and not loss to a word, causing the addition of a new syllable: and so are difficult to reconcile with the other manifestations of phonetic change. Yet these vowels are distinctly inorganic, as can in almost every case be proved by comparison with other languages. That they should be dynamic is excessively improbable; when change of meaning is likely to have been intended by sounding *ἐλαχὺς* instead of *λαχὺς* (*laghu*, *le(gh)uis*, &c.), or *ἀλεγεινός* beside *ἀλγεινός*? It is from vowel-insertions like the last, or from vowel-prefixes like *ἐ-χθές* for *χθές*, that we gain the conviction of the really phonetic character of these sounds: and accordingly I believe that they arose first from the difficulty of pronouncing a consonantal group, which became much easier when parted by a slight vowel-sound (if in the middle of a word), or if preceded by the same, when initial. Instances of this are well-known in modern languages, e. g. in the French *espèce*, *espérance*, from *species*, *sperare*, &c.: and a vowel similarly prefixed occurs in the late Latin of the fourth century after Christ, as *ispirito*, *istatua*³. But it is not easy to see why this use should be extended to words which do not begin with a compound sound, but only with

¹ *Ib.* p. 110.

² Catul. 84.

³ Corssen, 1. 289.

an easy letter like λ or ρ, μ or ν: and it is especially before these that this inorganic vowel is found; it occurs very rarely before a simple explosive sound; before τ, π, φ never¹. But the reason for this difference is not far to seek; a protracted sound has something of the vowel-character about it, and therefore a vowel can easily slip through the lips before it²: before a momentary sound the vowel must have been consciously added. Accordingly I believe that this new parasitic sound sprang up before certain liquids and nasals after it had been familiarised to the "Sprachgefühl" by use in cases where it was almost necessary. I do not deny that in some cases a prefixed vowel may be not parasitic, but the remnant of some corrupted prefix, most naturally of a preposition: and this, as might be expected³, is often assumed by Prof. Pott: e.g. he regards ἀμέργω as ἀπομέργω, like ἀπομάσσω, &c.⁴ I do not think this likely, because I know no analogy for a similar loss of π; but in some cases such a truncation is doubtless possible. Still in the great majority of cases I have no hesitation in regarding the vowel as the purely phonetic result of indolent articulation.

I will give examples first of the vowel when initial⁵. (i) *Initial vowels.* Several have been incidentally mentioned in the course of these lectures. Thus ἀστήρ, as we saw, is from STAR: whence also ἀστράπτω and ἀστραπή: to derive them from a root AS, "to throw" (which occurs in Sanskrit, but not, I think, in the other languages) is not so good. Similarly ἀσπαίρω is an easier form of σπαίρω: ἄσφι is a Lesbian form of σφί: κίς and χθές have the by-forms ἰκτίς and ἐχθές: the rare word ὄτλος⁶ seems to be most naturally connected with ΤΛΑ in τλάω: ὄνομα is most likely for

¹ Gr. Et. 655.

² Compare the irrational vowels in Latin, u before l, and e before r, pp. 179—185.

³ See pp. 45—47.

⁴ Et. Forsch. II². 886.

⁵ See Gr. Et. 650—660.

⁶ Aesch. S. c. T. 18.

δ-γνωμα. Before a single liquid we have the parasitic ε in ἐλαχύς, ἐρετμός, ἐρείγω (Lat. *ructo* from *RUG*), ἐρυθρός; ἐλαύνω for ἐ-λα-ννω¹; α in ἀλείφω, ἀμείβω, ἀμέλγω, &c.; ο in ὀλγος, ὀρυγμός, and perhaps Ὀ-λυμπ-ος from ΛΑΜΠ, by the Aeolic variation of α and υ. There are plenty of other examples, more or less uncertain, of the vowel in this connection. The ε is probably prefixed before υ in εἶργω for ἐ-Φέργ-ω (Sk. *वृज्*), ἐ-Φέρο-η (Sk. *वृश्*), εἰκοσιν for ἐ-Φικοσι (*ui-ginti*)². Before a simple explosive sound the best examples are perhaps ἀκούω, ὀκέλλω by κέλλω, ὀδάξ, and most likely ὀδοῦς; it is not probable that if the vowel had been original (so that the word should be derived from ED, "to eat"), it would have been lost in all the derived languages; Sanskrit *danta*, Latin *dent-is*, Lithuanian *dant-i-s*, and German *Zahn*. The cases are very few in all, but they are peculiar extensions of the common usage which I cannot explain. It will be seen that the vowels regularly found in this use are α, ε, ο, the strongest vowels. The reason is probably this: at first the prefixed vowel would be the same as the radical vowel³, though in actual use there are plenty of exceptions to this rule; and the vowel A in its triple form occurs, as I have already remarked, much oftener in roots than I or U.

Very rare
before an
explosive
sound.

(ii) Medial
vowels.

I pass to the insertion of a vowel between consonants in the middle of a word. These cases are more doubtful because sometimes the fuller form may be the older, and the vowel have been lost out of it. Thus Schleicher⁴ regards the ε in ὀρέγω as inserted, and by comparison with Sanskrit *ARJ*, arrives at an Indo-European ARG. But the Latin form is *reg-o*, and we have *rak-jan*, "to reach," in Gothic. It is therefore at least as probable—I think more so—that the older form was RAG; and that ο, not ε, was the auxiliary vowel;

¹ Gr. Et. 654.

² Comp. p. 78.

³ W. Christ, *Lautlehre*, 19, quoted by Curtius.

⁴ Comp. p. 76.

and therefore *ὀρόγνια* the older form of *ὀργυιά*. Other examples, which seem more certain, are given by Schleicher and Curtius¹: e. g. *ἀλ-ε-γεινός* mentioned above; *ἦλ-υ-θον* from the simple root *ΕΛ* (=EP), whence the secondary root is *ΕΛΘ*; *μαλ-α-κός* by *μαλκός* (Hesychius)—the *θ* in *μαλθακός* is again the result of dynamic strengthening of the root—*δολ-ι-χός* from original *dargha*, Sanskrit *dārgha*; *ἀλ-έ-ξω* beside *ἀλκ-ή*, the Latin *arc-eo*. Apparently we have a suffixed *ε* forming for many verbs a secondary base in common use. Thus *ΜΕΛ* forms its present stem by the affix *γο*, as *μέλλω*: but this stem is phonetically increased by *ε*, whence comes the future *μελλ-ή-σω*, and the aorist *ἐμέλλ-η-σα*. Similarly *ΜΑΧ*, “to fight,” has a secondary form *μαχε*, which is actually used for the present in Ionic, and forms the aorist *έ-μαχε-σάμην*. These new forms, which are rather common², have nothing to do with the formation of stems, for the new vowel commonly runs through them all: and as it is generally rather late, and produces no change of meaning in the verb, the vowel is probably a mere phonetic insertion, closely akin to the “connecting vowel,” which is so important in the conjugation of verbs. The object of that vowel is to preserve the final consonant of a root from all possible injury when it is connected with suffixes beginning with consonants; e. g. in forming the second person *ΒΟΛ* or *βουλ*, the Greeks insert *ε* before *σαι*, as *βουλ-ε-σαι*, *βουλ-ε-αι*, *βοίλει*, so that in all these changes the *λ* has not suffered; on the contrary the Latins, who in a few verbs (*ES*, *ED*, *VEL*, *FER*, &c.), do not regularly employ a connecting vowel, lost the final consonant in *uol-s*, *uil-s*, *uis*. I cannot agree with Schleicher, who (following Bopp) regards this vowel as a demonstrative root³,

The “connecting vowel.”

¹ *Gr. Et.* 656—660.

² Curtius gives thirty-eight examples in his excellent School Grammar, which is translated and published in Dr Smith's series, see p. 198.

³ *Comp.* p. 343.

whose original form was *a* (preserved in Sanskrit) and weakened in other languages, in Greek to *e* and *o*, in Latin to *i* and *u*, according to the following sound. I can see no proof of such a view: and prefer to regard the vowel as simply phonetic, and belonging in its origin to the class which we are here considering; at a later time of course it became one of the arbitrary forms of grammar. It is worth observing that the oldest verbs (so far as we can trace the historical development of the verb) in Sanskrit, in Greek, and in Latin, do not generally possess these connecting vowels; and it is just as likely that they never had them, as that they had them and lost them. Bopp's objection however is no doubt forcible, that *a* the strongest of the three primary vowels is least of all adapted for a mere phonetic link¹; and is not quite met by the reply that *a* does not occur in Greek² and Latin, and that the Sanskrit *a* is not the full vowel of the primitive language. Still the evidence seems to me to preponderate for the view that I have given.

*Auxiliary
vowels in
Latin.*

In Latin there is, I think, no prefixed vowel as in the Greek: it was not in accordance with the genius of the language. Even within a word it was not common, with the exception of the regular connecting vowel—if the theory of the phonetic origin of this vowel be true. It is observable however that those verbs mentioned above as not regularly taking the connecting vowel, do take it irregularly, as (*e*)*s-u-m(i)*, (*e*)*s-u-mus*, (*e*)*s-u-nt(i)*: so also *fer-o-(mi)*, *fer-i-mus*, *fer-u-nt(i)*, &c. Such further vowel insertion as occurs in Latin belongs to the early more than to the later period of its records: this is shewn by the Latin forms (already mentioned, see p. 164) of borrowed words, e.g. *Aesc-u-lapius* for 'Ἀσκληπιός, *Alc-u-mena* for 'Ἀλκμήνη³,

¹ *Comp. Grammar*, vol. II. p. 694, English translation.

² Except perhaps a few verbs, such as *δγ-α-μαι*, *πρ-α-μαι*, &c.

³ e.g. Plaut. *Amph.* 99.

drach-u-ma for *δραχμή*¹, and the common *mina* for *μνᾶ*. These vowels (varying as we have seen according to the following consonant) are not generally found in the later Latin. The fact too that auxiliary vowels are especially frequent in the Oscan², shews that the principle was one originally common to the Italian with the Greek; which naturally became less and less operative in Latin, as the vowel-system became with every century weaker.

Schleicher thinks that *um-e-rus* (Sanskrit *am̐sa*), *rub-e-r(o)*, *gen-e-r(os)*, Greek *γαμ-β-ρός*, &c., are examples of the insertion³. I do not see why they should not be distinct Latin forms with the suffix *-ero*. Such difference of formation is perfectly common in the most certainly cognate words of different languages. Even though there may have been one common form in use in the time before the separation of the two peoples, yet after that separation a new form may easily have sprung up among one of the two nations, more agreeable to the phonetic laws which time had developed, and so superseded the old one.

7. *Auxiliary (inorganic) Consonants.*

These are not very numerous either in Greek or Latin, though sufficiently so to require a special mention. They are among the most decisive signs of a decomposing language, and therefore are rather to be looked for in more modern tongues, as *gen-d-re* and *nom-b-re* in the French⁴. A familiar instance may be found in English in the name of Ambleside in Westmorland; which is by deri-

¹ Plaut. *Trin.* 425 (ed. Brix).

² Kirchhoff, *Zeitsch.* i. 36, quoted by Curtius, *Gr. Et.* 656.

³ *Comp.* p. 102.

⁴ Schleicher, *Comp.* p. 233.

vation Hamal-seat or -sett; Hamal is a common Norse name: and the true form is still pretty nearly kept in the more correct local pronunciation. In "thunder" the *d* is interesting, because it does not occur between two consonants, and yet is unquestionably a parasitic insertion: compare the Anglo-Saxon "thunjan" and German "Donner:" in some parts of the north of England the word is still rightly sounded as "thuner:" the very full sound of the first syllable seems to be the cause of the want of a connecting link between it and the following vowel.

The examples in Greek are very sporadic. I give some from Schleicher (l.c.). Thus we find *ἀν-δ-ρός* from *ἀνερ*; the Sanskrit *nara* with the same meaning seems to point to the *δ* as being parasitic: *μεσ-ημ-β-ρία*, and *(μ)-β-ροτός* are well-known examples: in the latter the radical *μ* has been expelled by the consonant which it joined to produce: and *μέμ-β-λωκα* stands for *μέ-μλω-κα* from root *MOΛ*. There are a few others of the same kind.

In Latin the only examples which are given by Schleicher¹ are the words in which *p* is inserted between *m* and *s*, or *m* and *t*: as *hiem-p-s*, *sum-p-tum*, &c. The greater ease of sound in the words so modified is obvious.

Conclusion. I have thus endeavoured to set before you the main points in which the languages spoken by the Greeks and the Italians varied from the speech of their common forefathers—both from that of the Graeco-Italian race out of which they immediately sprang, and from that of the race to which we as well as all the civilised nations of Europe trace

¹ *Comp.* p. 266.

our descent. I have endeavoured incidentally to point out any light which these divergences cast on the character of the different peoples. But my main object has been to point out the common reason of all these changes in language; to convince you that they all sprang from the same desire for ease of articulation; whether that tendency produced a weak or an indistinct sound instead of a stronger or a clearer one, the cause was the same. I have tried also to shew that all or nearly all apparent exceptions to this law are in reality confirmations of it, when understood in its most comprehensive sense. I have in no case endeavoured to give all the examples which might have been given in support of the views advanced: if you care for the matter you will prefer, and it will be far more useful for you, to find others for yourselves: indeed I fear that I may sometimes have wearied you by giving you facts which you knew before. But my aim has been to present to you facts, old in the main, under a new light. Only so far as I have succeeded in giving the reason for what may have seemed to you before mere arbitrary anomalies; only so far as I have been able to trace many apparently isolated results to the operation of one common principle; just so far have I attained the object of these Lectures.

INDEX.

- A, the vowel *κατ' ἐξοχήν*, 32
A-sound, splitting of the (A = a, e, o), 129; found throughout Europe, 130; analogies in England, *ib.*
A to e, history of change from, 131; it passes into e in roots and suffixes, 132
A to o, the change from, less frequent before the Graeco-Italian period, 133; instances in proof, 133, 4; commonly retained before a guttural, 133
A, O, U, long, weakened to *ε* and *ι*, 171
A to α, ζ, δ, extension of, 137; Curtius asserts that for every Greek α, η, ω we may expect an original α, 137; difficult to prove, 138
A final, origin of, in secondary roots, 49
α, the grammatical suffix of the first person in Greek perfects, 136
Ablative *marī* and *mare*, 168
Accent, in Sanskrit and in Greek, 111
— Corssen's theory of the original freedom of, 192
Accentuation, Latin, common law of, 200; depends on the quantity of the penultima, 201
— reaction of, upon quantity, 202; conflict between accent and quantity, *ib.*; epitaph, fifth century B.C., quoted, *ib.*
— an older law assumed which differs from that in common use, 203; illustrated and explained, 203, 4
— in other languages, 204; in Greece, *ib.* and *n.*; in Sanskrit, 205; the German family, *ib.*; Corssen as an authority on accent, 206
Aciles, Ἀχιλλεύς, 14
ἀδελφός, 232
ἄδην and *ἄδδην*, 296
aedes, its original meaning, 120 *n.*
Aeolic forms, 146, 148
ἀγαγῆν, 109
Aghi, *εχis*, *anguis*, 61
ai as an intensified form of *i*, 119
aides, *aedes*, 149
αἶρας, 80
ἄκμων, 37
ἀκωκή, 109
ἄκνα, *ἔκπος*, *equos*, 80
ἀκόλουθος, 121
Albanian, 19
ἄλευρον, 235
alienus, origin of the *e*, 189
Alliteration, 97—100
ἀληγοστής, 65
alumnus, 182
amabare for *amabaris*, 260
amasso, 198
ἀμαρτεῖν but *ἡμβροτον*, 303
Ambleside, the name, 309
ἀ-μέργω, 305; *ἀ-λείφω*, *ἀ-μέλω*, *ἀ-μελ-βω*, 306
ἄμωός, 236
ἀμπέλος, *ἀμπέλους*, 148
ἀμύμων, 161
angustus, consonantal change from AGH, explanation of change, 219
animae and *animāi*, 204
ἄφρονος, 300
Aquilius and *Aquillius*, 181
arbitr, 227
arcesso, *ib.*
ἀρήγω, *ἀρκιος*, 222
adfuerunt, *adfuerunt*, 227
Ἀριδδῆν, 272
ἀρωγ-ός, *ἀρήγω*, 117
Articulation, weak, 123; indistinct, 281; in English, 282; the result of laziness, 281
— indistinct, (1) Labialism, a name given by Prof. Curtius to the change of *κ* to *π* and *p*, 283; possibility of this change, *ib.*; exemplified from Latin, Greek, &c., 284; caused by parasitic *v*, 285; the Greek *π* the equivalent of Latin *qu*, *ib.*; further illustrations, 286; history of the Latin *Q*, 287; change of

- G to β and δ, 268; change of GH to φ, 289
- Articulation, indistinct, (2) Dentalism; change from K to τ, 290; examples in Greek, 291; change of G to d, rare and uncertain, 292; change of G to θ, ib.; change of D to δ, ib.
- (3) Parasitic d before γ or t, 293; the apparent change of Y into γ, ib.; Y with parasitic δ appears, (i) as γ, 294; (ii) as δ, (iii) as δε, (iv) as δ, 295; these changes as estimated by Curtius and Corssen, 296; certain by-forms in a transitional period, ib. n.; estimate of the probability of these changes, 297; Curtius and Schleicher on these changes, ib.
- (4) Parasitic γ: γ after δ, 298; but few traces of this, ib.
- (5) Aspirating unaspirated letters, 299; involuntary aspiration of hard letters, ib.; frequently caused by mere laziness, 300; no certain example of the aspiration of soft sounds, 301; aspiration in Greek and Latin at the beginning of a word, ib.; various in the different dialects, 302; in Latin the corruption of later date, 303
- (6) Auxiliary (inorganic) vowels, character of these sounds, 304; most common in Greek, ib.; vowel-insertions and vowel-prefixes, ib.; (i) initial vowels, 305; rare before an explosive sound, 306; (ii) medial vowels, ib.; examples adduced by Schleicher and Curtius discussed, 306, 7; the "connecting vowel," its object, 307; auxiliary vowels in Latin, 308; some verbs take the connecting vowel, ib.
- (7) Auxiliary (inorganic) consonants, not very numerous either in Greek or Latin, 309; examples in Greek very sporadic, 310
- Argan*, the term applied only to the Eastern division, 18
- not properly applied to the primary race, 22
- its probable derivation, 22
- Aspirates, 55—59
- their pronunciation, 10, 263
- soft and hard, 55; doubt whether both classes are found in original language, 52, 56; in Gothic, 58; hard aspirates recently developed in Sanskrit, ib.
- pronunciation of, in Greek, 263; transliteration of Greek into Latin, 14, 265; in modern Greek, ib.
- Aspiration at the beginning of a word, 301
- of unaspirated letters in Greek, 249, 299
- Assibilation in Greek, 268; in Latin, 277
- Assimilation, principle of, 178
- αστέον* for *ἀσ-τεον*, 279
- ἀ-στέρ*, 305
- aula* and *olla*, 154
- Aurelius*, 78
- aureolus*, 186
- aurichalcum*, 155
- Aurora*, 78, 123
- ausculari, osculari*, 155
- Auster*, 78
- Auxiliary letters, 304; auxiliary vowels before groups of consonants, ib.; and before liquids and nasals, 305
- vowels inserted in Latin, 164, 308
- Avi, αἶς, ovis*, 80
- B of comparatively recent use, 53; exemplified in *βλήγω, balo*, 53
- B Latin, equivalent to Oscean *f*, in the middle of a word, 242
- β, produced by assimilation from V, 273; by substitution in Laconian, 284
- badiaso, βαδίζω*, 15
- βαδ = γυνή*, 239
- bene*, 186
- benevolus*, 170
- BH Indo-European, 64
- bido*, 225
- βίφος, βλος*, 292
- βλέφαρον*, 300
- βόδιουμαι*, 234
- βορός* for *μ(β)πορός*, 310
- Bruges, Φρόγες*, 14
- bubile*, 235
- Burrus, Πυρρός*, 14, 225
- C lost when initial, 254; lost before *s*, 255; before *t* and *n*, 256
- calim, supercilium*, 186
- casa*, 253
- Case suffix *os* weakened to *us* and *is* in Latin, 165
- Carmena*, 238
- castrum*, its different forms in England, 7
- caussa*, 16, 238

cere, *κῆρα*, in compounds, 39
ce(s)na, 256
χ history of the symbol, 128
χαῖται, *χθών*, 274
χθῆς, how pronounced, 264; origin of
θ, 274, 298
civis, 38
clarus, *clamor*, loss of *a*, 194, 201
Claudius and *Clodius*, 154
claustrum for *claud-trum*, 279
Climate, influence of, upon language, 6
cognitus, shortening of the vowel, 208
comissor, *κωιδῖω*, 184
Comparatives in Greek as instances of
assimilation, 268
Compounds, Latin, weakened in the
first member, 169; in the second
member, 170; exceptions to the lat-
ter, and their reasons, 172
"Connecting-vowel," the, 307; gain of,
to the Greek in causing less change
of the root in Græco-Italian *o*, gen-
erally weakened in Latin to *i*, 167
Consonants, Latin, of greater strength
than Greek, 216
_____ general rules to determine
their relative strength, 217
_____ momentary sounds strong-
er than protracted, 217
_____ hard sounds are stronger
than soft, 218
_____ unaspirated sounds strong-
er than aspirated, 218; gutturals the
strongest class, 219; illustrated from
the Sanskrit, 220, 221
_____ relative strength of nasals
and spirants, 221
_____ Substitution of, 222
_____ Change of hard to softs,
κ to *γ* and *g*, 222
_____ Peculiar change of the hard
guttural in Latin, 223; to what due,
ib.
_____ the various changes ex-
emplified and discussed, 222—247
_____ substitution for momen-
tary (unaspirated) sounds in Latin,
226
_____ substitutes for spirants in
Greek, 227; in Latin, 236
_____ sporadic substitutes in all
dialects, 234
_____ changes of the aspirates in
Latin, 241; when initial pass into
breaths, 244
_____ soft letters instead of aspi-
rates in Latin, 245
_____ Loss of, 248

Consonants: loss of aspiration in
Greek, 248; not frequent, 249
_____ languages generally do not
tolerate heavy masses of consonants,
250; what some philologists contend
for in regard to all roots originally, *ib.*
_____ the loss in consonant
groups considered under three heads:
(i) Initial loss of *s* and *v* in Greek
and Latin, 251; further loss in
Latin, 253
(ii) Medial loss hardly found in
Greek, 255; common in Latin,
ib.; examples from Schleicher,
ib.
(iii) Final loss, 256; caused by ten-
dency to throw the accent back,
ib.
_____ Consonantal terminations
in Greek monotonous, 257; some-
times all dropped, 258; the *ν* *ἐπελ-*
κυστικόν, *ib.*
_____ In Latin no such dislike
to the accumulation of consonants,
259; but in old Latin final conso-
nants were regularly dropped, *ib.*;
instances of the loss of the final *s*,
m, *t*, 259—261
Consonantal groups, probable origin of,
250; the attempt to resolve them
not always safe, *ib.*
_____ at the beginning of
a word not objectionable to a Greek,
252; Latins disliked initial *sr*, *sm*,
sm, *ib.*
_____ when initial dis-
placed in Latin, 254
_____ terminations, rule for in
Latin, 259
_____ change, phonetic not dy-
namic, 35
_____ Assimilation, 262
_____ The Greek aspirates, 262;
their pronunciation, 263; probably
not sounded as spirants, *ib.*; Prof.
Arendt's views, *ib.*; Curtius argues
that *χ*, *θ*, *φ* were real aspirates, *ib.*;
argument drawn from Latin trans-
literation, *ib.*
_____ assimilation in Greek, ge-
neral rules of, 266; complete, *ib.*;
(i) of the first sound, 267; (ii) of the
second, *ib.*; (iii) modification of both
sounds, 268; Pott's views, *ib.*; other
explanations, 269; no such change
of a labial, 270; of a soft guttural
or dental, 271; incomplete, 272; (i)
"Euphonic" changes, *ib.*; (ii) changes

- caused by nasals, ib.; (iii) changes of nasals, ib.; (iv) change of τ to σ , ib.; (v) Laconian change of θ to σ , 278; (vi) change of ν , ib.; (vii) other exceptional forms, ib.
- Consonantal Assimilation in Latin, general rules of, 275
- i. Complete, 275; (i) assimilation of the first letter, ib.; (ii) of the second letter, ib.; (iii) modification of both sounds, ib.
- ii. Incomplete, 276; (i) "Euphonic" changes, ib.; (ii) changes caused by nasals, ib.; (iii) change of t to s , ib.; assimilation a late change, 277; inscriptions our best guide, ib.
- Dissimilation, 279
- (i) change of a dental, 279; (ii) loss of aspiration in Greek, and of initial reduplicated consonants, ib.; (iii) Latin *-aris* and *-alis*, 280
- consulo*, 186
- contio*, *co-uentio*, 199, 277
- cupit*, *crepui*, loss of the a , 194, 203
- cum* and *quom*, 188
- cunctus*, *coiunctus*, 198
- curculio* and *gurgulio*, 228
- Curtius, Prof. Ernst, affirms that Aeolic is not a dialect like the Doric and Ionic, 126 n.; in what sense this may be admitted, ib.
- cutis* and *αῦρος*, 253
- D Indo-European, 50
- D, how pronounced in Latin, 226
- D becomes b , 292
- D passes into l in Latin, 226
- D passes into r in Latin, 227
- $\Delta\alpha = \xi\eta\alpha$, 272
- $\delta\epsilon\alpha\sigma$ (*Od.* vi. 242), 52
- $\delta\epsilon\chi\text{-}\sigma\mu\alpha$, 249, 300
- dederimus* and *dederimus*, 204
- dederi*, *dedit*, *dederunt*, 168, 261
- dederunt*, *dedit*, 162
- $\delta\epsilon\delta\iota\sigma\sigma\alpha\iota$, 101
- Deis*, *dis*, not *Diis*, 189
- $\Delta\eta\mu\acute{\eta}\tau\eta\rho$, 272
- Dentalism, 290
- $\delta\epsilon\sigma$, $\epsilon\delta\epsilon\sigma\epsilon\sigma$, scanning of, in Homer, 299
- dextera*, how scanned, 207
- DH and BH represented in Italy by f , *rudhra*, *rufu*, *rubro*, 243
- DH Indo-European, 61
- Dialects, their origin, 125
- claims of Aeolic to stand besides Doric and Aeolic, 126
- Dialects: view of Prof. Ernst Curtius, 126
- Digamma substituted for V , 232; wrongly written for y , 233; γ substituted for, ib.; wrongly supposed to be especially "Aeolic," ib.
- Diphthongs, tendency to become single sounds found in Homer, 141
- Greek, 139; $AI = \alpha i$, ϵi , α ; $AU = \alpha u$, ϵu , ou , ib.
- originally double sounds, 139; change of dissimilar diphthongs in Greek, 140; illustrated, 141
- tendency to drop the second vowel, 141; forms quoted by Ahrens, ib.; change of sound in Attica, 142
- αi , ϵi , 142; α , αu , ou , 143; ϵu , 144
- with first vowel long ($\bar{\alpha}$, η , ω), $\bar{\alpha} i$, ηi , ωi became monophthongs, 144; similar diphthongs, ib.; six possible combinations of similar vowels, 145; exemplified in the Attic, Doric, and Aeolic dialects, 146—149
- Latin, ai passed into ae , 149; retained longest in radical syllables, ib.; ae found in legal notices, 150; pronounced by countrymen as e , ib.; weakened to i , ib.
- ei found early as i , pronounced by countrymen as e , 151; Quintilian's dictum, ib.; weakened from ai and oi , 152
- oi passed into oe , 153, and into u , ib.; into i and e , 154
- au sometimes became o , but generally retained, 154; sometimes produced wrongly out of o , 155; becomes o and u in composition, ib.
- eu became u , 156
- ou became u , 156
- table of the probable sounds, 157
- diurnus*, 167
- dirti*, 197, 203
- domitum*, 185
- $\delta\omicron\mu\omicron\varsigma$, *domus*, 58
- Donaldson, Dr., law of divergent articulations, 13
- Doric changes $\alpha + \epsilon$ to η in contraction of suffixes, and $\alpha + o$ to α : this change also Aeolic, 146; $\epsilon + o$ to ϵu , 147; $o + \epsilon$ to ω , ib.; change of severe Doric, 148
- $\delta\omicron\mu\kappa\alpha\varsigma$, $\zeta\omicron\mu\kappa\alpha\varsigma$, and $\iota\omicron\mu\kappa\alpha\varsigma$, 298
- duellum*, &c., 292
- Dynamic change, 3
- its nature, 91

E, commonly found before two consonants, as *ascendo*, 167, 171

εἰρός, 79, 230

ἐχέμεν and *ἐχομεν*, 136

ἐχθές, 304

ἐδῶδη, 109

ἐγώ, uncertain whether the *γ* is from GH, 248

ελκών, *εῖκα* for *γεγοικα*, 298

ελμ, different forms, 148

εἰπόμεν, 193

ελαχύς and *ελαφρός*, 289

ἔως, *ἥως*, *αἶως*, 78

ἐφράγη, but *φράσσω*, and *farc-io*, 222

Epitaph of Claudia, 156

— Felicitas, 200

Epitaphs of the Scipios, variations of spelling upon, 151

equeater for *equit-tero*, 279

Eranian language, 19

ἐργον, *φέργον*, *βέργον*, 234

ἐρίσθεν, *ἐρίσθην*, *ἐρίσδεμεν*, 148

ero, *es-yo*, 237

ἐσπερε, 286

Essay on the Results of Comparative Philology and Classical Scholarship, 5

ἐστάλαται, 255

ἔσπελλα, 268

euntem, 190

εὔπος, 78

ἐύς, *εὔ*, 77, 230

exta, 75, 197

F, history of, in Latin, 240; a labiodental, 241

fari, Gr. *φά-ραι*, 241

Farrar, Mr, connection between sense and form in roots, 27

faxim, *fazo*, 197

feci from *fefaci*, 175

femina, 62

ferbul, 235

festus, 25

fidži and *fidzi*, 203

filius, 62

firmus, 241

fisus for *fid-tus*, 276

flamma for *flag-ma*, 275

flavus and *fulvus*, 181

Formiae, &c., 241

formido, 241

hostis and *hostis*, 242

fruur for *fruguor*, 288

Future suffix, *-syo*, 229

G Indo-European, 47

G becomes *β* and *h*, 288; becomes *δ*, 292

γαμβρός, *gener*, 309

γαργαρίσειν, 101

gau(i)deo, 204

γῆ, *γαῖα*, *ala*, 272

γέγονα and *jajána*, 136

Genitive in *as*, 149

German modified vowels, 187

GH, Indo-European, 60

GH becomes *g* in Latin when initial, if followed by *r*, 244; represented by *g* when not initial, 244

GH becomes *φ*, 289; becomes *θ*, 292

Gloria, 223

Graeco-Italian vowels, how pronounced, 128

Greek alphabet, how enriched, 128

— *φ* = *p'h*, 15, 263

— pronunciation of, not to be judged from modern Greek, 143

— words borrowed by the Latin, 14

Grimm's Law, 218

GU, how produced in Latin, 288

Guna and *Vridhhi*, terms rejected by later philologists, 110 n.

Guttural nasal, 31

H, history in Greece, 231; wrongly inserted, ib.

H, parasitic in Greek, 299; caused by a liquid, or nasal, or sibilant, 300

H, not inserted wrongly in Latin, till of late, 303

haruspex not *aruspex*, 303

herba and *φoρβή*, 243

Heyse's (Prof.), character of *e* may be assented to, 183; of the other vowels doubtful, ib. & n.

hiemps, *χι-ών*, 244

Hindu belief in immortality, 105

Hindus, their mixture with an earlier race, 21

ἡμεῖς, why aspirated, 302

"Home," 38

homullus, 181, 195

hornus, *ho-iornus*, 198

hospes, 244

hostis, our "guest," 244

ῆσσαν, *ἡκιστα*, 270

I, apparent influence of, in assimilation, 187

I, common vowel before suffixes, as *publicus*, 169; weakened from *e* as *rubicundus*, ib.

ιδεῖν and *φιδεῖν*, 232

lepos, 302

illicebrae, 186

Indo-European alphabet, 31

— *apa*, ἀπό, *ab*, 45

— Roots, some of our words possibly older, 66

— *katvar*, "four," τέτταρες,

quattuor, 39

— *ka*, "who," κο, *quo*, 39, 284

— people, 17

— peoples, their degrees

of relationship, 20

— terms for relationships,

66, 69

— winter, probably severe,

69

indu-itiæ, 199

infringo, why *i* does not sink to *e*, 171

insece, 286

ἴστος, weakening of *a* to *ι*, 160; change of *κ* to *π*, 234

ἴππω, 148

ipseius, *illius*, the genitive forms, 190

Irrational vowels, 206

itā, 211

iubeo, *ius-hibeo*, 199

iurgium, 190, 196, 204

iuxta, 75, 197

K Indo-European, 37

K lost in Latin, except as an abbreviation, 223

K becomes *π* and *ρ*, 283; becomes *τ*, 290

K does not pass into *ρ* in Latin, though in Italian, 286

κάλός and κάλος, 296 n.

Kam, *com*, *syn*, 161

Keltic, its relationship to the Italian, 19

κενός, *kenedós*, 229; *kénnos*, 267

Key, Prof., on the "German School of Linguistic Science," 48

"Kin," 24

κλαζῶ, 230

Κύμη, 38

Κυνούρια, 251

L perhaps Indo-European, 81; how pronounced in Latin, 180; sometimes doubled, ib.

L substituted for *d* in Latin, 226

Labialism, 283

lacrima, 15, 226

λαλαψ, 102

Latinised Greek words, 14, 15

latus for *latus*, 254; *latus* = πλῆθος, ib.

lautus and *lotus*, 154

λέγγω, λέγω, 148

Letters of the Greek and Latin alphabets, later, not Indo-European, 127

leuir, δαήρ, 226

Liquids, 81; R is the older sound, ib.

Loss of reduplicated syllable in Latin perfects, 174

lu(c)na, 256

lupus, 253, 286

Lyra, λύρα, 14

M Indo-European, 70

M final, omitted in Latin, 260

Madhu, μέθυ, 64

mage for *magis*, 260

magis, 184

μάλευρον, 235

μάλλος, *uillus*, 236

man(u)suetus, 199

mare, 240

μελ-ε and μέλλω, 307

μέλδομαι, ἔλδομαι, 236

μέμ(β)λωκα, 310

meridies, 227

meritus, *merētus*, 185

μεσημ(β)ρία, 310

Μεσσάπιοι, Μεσσωποταμία, Μεθύδιον, 284

μίμνω, 108

mina for *μνᾶ*, 309

minus, 184

monéo, 116

moz, 196

N Indo-European, 68; how pronounced in Latin, 184

N not clearly heard before *s* in Latin, 255

Nabhas, νέφος, *nubes*, 65

Nasals, 67; the guttural nasal, ib.

Nasalisation, 193

νεπότες, ἀνέψ-ιος, *nepotes*, 224

neptis, loss of *o*, 194

neu, 214

Niebuhr's hypothesis of a Greek and non-Greek Element in Latin, 14

nuncupo, 199

nuntius, *noui-uentius*, 199, 277

O before *l* sinks to *u* 180; sometimes prevented, 186

O final, gradual shortening of, 212
 O weakened to u in Latin formative syllables, 165
obicit, how scanned, 189 n.
ocellus, 195
ὀδμή and *ὀσμή*, 272
ὀδ-ωδα, 117, 135
ὀ-δούς, 306
oinos, unus, 119
 — *oenus, unus*, 153
ὄκρος, perhaps connected with *cunctor*, 280
ὠκύ, Latin, *oci-us*, the length of the vowel original, 188
olere and *odor*, 226
Ὀλυμπος, 306
ὄμμα and *ὄπτα*, 267
ὀμνέσθην, ἀναμνησθῆναι, 184
ὀμφ-ή, 300
ὀ-νομα, 48, 305
ὀφρύς, 48
ὀπποτα, history of the form, 207
ὀρέγω, rego, 306
ὀρός, 84
ὄρος, 84
ὀ-γλος, 305
ὦς, 76, 229

P, Indo-European, 44; becomes β and ϐ, 225
 P, weakening of to p, as *Boblicola* for *Poplicola*, 108
 P inserted in Latin, 10, 310
παχύς, 301
 Palatals, 7, 290
palumbes and *columba*, 286
παμφαίω, 101
Papirius and *Papisius*, 239
 Parasitic sounds, 12, 281
Parilia and *Palilia*, 280
partem and *partim*, 168
πατρῆς, loss of the ε in the suffix, 193
pauper, pauciper, 199
pedester, 182
penna for *pet-na*, 275
penuria and *πνάμς*, 253
perfacilis and *difficilis*, 173, 186
πεπρόντος, the double ρ caused by assimilation, 267
perplacet and *displacet*, 173, 186
πέσσω, πέπω, from *IIAK*, 270
pettoritum, 286
Petronius and *Petrei* = *Quartus*, 286
φαενός for *φαερ-ος*, 267
φηγός, fagus, discussed by Max Müller, 49
 Phonetic change, its nature, 1

Phonetic change, its cause, 3
 — gain of the Greek
 from, 6
 — apparent exceptions
 to the principle of, 9
 — Prof. Max Müller's
 theory, 11
 — due to two causes,
 123
 — general results of, in
 Greek and Latin, 127
 Phonetic varieties applied for dynamic purposes in Greek, 115; traces of the same method in Latin, 116
φορέοις, 148
φράδδω, Boeotian = *φράζω*, 271
pi(c)nus, 256
pietas, why the e does not sink to i, 189
πιέζω for *επι + έζω*, 46
πίπτω, 108
piscis, its derivation, 46
plaustrum and *plostrum*, 155
 Plautus, different theories of his scanning, 207
 — his transliteration of z by s or es, 15
πλήσιος for *πλατ-γος*, 278
πλούσιος for *πλουτ-γος*, 273
 "Poetical license," in what sense the term admissible, 195
ποῖος, ποθεν, 91, 284
ποιπνώ, 101
πολύς, πολλός, 268
Pompeius and *Pontius* = *Quintus*, 286
porpina and *coquina*, 91, 286
postus, repostus, 196
 Pott, his theory of secondary roots, 42, 45
praestolor, 43
praesto, 197
prohibessis, 198
πρυτανίς, 161
πτόλις and *πόλις*, 274
pulcher, 16
πύματος, 161
 Q, history of, 288
 QU occurs beside C in Latin, 285; corresponds to π in Greek, 285
 Quantity of vowels, natural length, 200 n.; shortened by accent, 202
 — vowels lengthened
 in Augustan poetry, 209
 — variation of, in Greek and Latin, 296 n.

que, 211

querella, 16, 180

quin, 214

quot, 114

R Indo-European, 81

R substituted for *d* in Latin, 227

ραχία, 301

ράκος from BHRAG, 252

raptim, 169

Reate for Sreuate, 252

Reduplicated consonant, loss of, in Greek, 279

Reduplication, use of the vowels in Greek for the reduplicated syllable, 187

———— the oldest and simplest method of formation, 95; evidences of this derived from the language of savages and children, *ib.*; general traces of the principle, 97; in imitative words and in alliteration, *ib.*; in superlatives, 100; in intensives, 101

———— to distinguish protracted from momentary action, 103; table illustrating this, 104

ρήγ-νυ-μι, ἔρρωγα, 117

Relaxed articulation, instances in English of, 12

ρίζα for Φρίζα, 251

Roma for Srouma according to Corsen, 252

Romance languages not derived from Classical Latin, 166

Root, its definition, 26—28

Renan's view, 28

Prof. Curtius' definition, 28

AK, ἄκων, *acuo*, 37; never *EK* or *OK*, 133

ΑΛΘ, ἀλδαίνω, 249

AN, ἀν-εμος, προσ-ηρ-ής, 68

AR, ἀρόω, *arare*, 82

ARBH, ἀλφεῖν, *labor*, 65

AS, ἤμαι, 303, 305

AS, *ES*, ἐστι, *est*, 76; ἔμμι, 267

BHA, and BHAN, φάμι, φαίνω, *fari*, 41

BHAR, φέρω, *fero*, 4

———— φόρος, *ferax*, *fore*, 65

BOA, βολ-γο-μαι, βόλλομαι, βούλομαι, 185

BHU, φύω, *fui*, 34

XT, χεύω, 121

DHA, θήσθαι, *felo*, 61

Root, DHU, θίω, θυμέ, θέλλα, *fumus*, 68

ΔΙ, ἐδέσσειν, 299

DIV, Δι(F)ος, 50, 51; DYU, Ζεὺς, Διεύει, 298

DRAK, δρακεῖν, δράκων, 52

EA (= EP), ΕΑΘ, ΕΑΤΘ, φλυθον, ἐλευ(θ)ομαι, εὐλήλουθα, 121, 307

———— ἐπήλυθ-, 249

ER, ἐρεμύς, *remus*, 82

FID, *fides*, *feidus*, *foidus*, 119

GA, GAN, and GNA, γέγαα, γένος, γιγνώσκω, *genus*, *gnatus*, 47

GAR, "to call," "to waken," "to be old," 29

GAR, βορ-δ, 29, 288

GHAR, χαλρεῖν, Lat. *gratus*, 60

GNO, the old by-form of GNA, 188

I, Lat. *eire* (*ire*), 119; αἰών, Lat. *aeuum*, 121

IDH, αἰθω, αἰθος, αἰθήρ, Lat. *aed-es*, *aestus*, *aes-tas*, 120

IK = ΔΙΚ, εἰκών, εἰκα, ἱκελος, 298

KI, κείμαι, *quies*, 38, 284

———— κείμαι, κοίτη, κοιμάω, 118

LABH, λαβεῖν and λάφυρον, 249

LAS, λά-ω, λήμα, λι-λα-ί-ομαι, 85

LIGH, λείχω, *ligurio*, 244

ΛΙΠ, ἔλιπον, λείπω, λελοίπα, 118

LUK, λείσσειν, *lumen*, 63

MA, μμείομαι *unitor*, 103

MAX, μαχε, ἐ-μαχε-σάμην, 307

MAN, μέν-ειν, μένος, μαινομαι, *mentio*, *monco*, 71

MAR, MARD, MARP, α-μ(β)ρο-τος, 70; μαρμαίρω, 101

NAK, Indo-Eur., Lat. *nex*, *necis*, 117

OK, ὄσσε, Hesych. ὀκκος, Lat. *oculus*, 271

OR, ὄρωρα, *orior*, 83

PA, πατήρ, πόσις, *potis*, 44

———— *ghas-pati*, Lat. *hospes*, 244

PAK, not PAG, *pac-iscor*, Gr. *πιδ-σαλος*, 223

PAR, ΠΑΑ or ΠΑΕ, Lat. *PLE*, πῶ-λις, Lat. *ple-be*, 274

———— περῶν, πόρος, *πιπράσκω*, *portus*, *periculum*, 44

ΦΤΤ, ἔφυγον, φεύγω, πέφυγα, 121

ΠΙΘ, πιθ-ανο, πιθαρός, *πιθαρότης*, *πιθαρός*, 92

———— ἐπιθω, πείθω the verb, *πειθω* the noun, *πέποιθα*, 118

ΠΛΑΚ, πλάξ and πλακοῦς, *πλήσ-σω*, 270

- Root, ΠΡΑΚ, *πρακός, πρόσσω*, 270
 ΠΤΑΚ, *πτήσσω*, 270
 PT, *ρέω*, ΠΙΝΤ, *πνέω, πνεῦμα* and *ῥεύμα*, 121
 SAF, *σοφός, σαφ-ής, sapio*, 300
 SAR, *ἄλς, sal*, 85; possible connection with SRU, 250
 ZEB, *σεμ-νός*, 272
 ΣΦΑΠ, *ὑπ-νός*, 272
 SIV, *κασσύνω=κατα-συ-ω, suo*, 77
 SKEΠ, *σκοπεῖν, σκόπος*, 52
 SKID, *σχίζω*, Lat. *scindo*, 300
 SKU, SKAD, *caelum, casa*, 253
 SMAR, *μεμνηρίναι, memor*, 101
 SNIGH, *νίφ-ειν*, 289
 ——— *νιφός, snow*, 69
 SVAR, *sopor*, 253
 SPU, *πυρίτω, urere*, 253
 SRU, probably not the simplest form, 250
 STA, *στάσις, ἵστημι, stare*, 27, 42
 ——— *στέ-νω*, 300
 STAL, *στέλλω, praestolor*, 43
 STAMBH, *στέμφυλον*, 43
 STAP, *stipare*, 43
 STAB, *ἁ-στήρ, δστέραπτω, δστραπή*, 305
 STAV, *σταῦρος*, 43
 STIX, *στίχες, στειχω, στοῖχος*, 118
 ΣΤ, *σέω*, 121
 SVAD, *ἡδύς, sua(d)uis*, 114
 SVAN and SVAP, Indo-Eur., Lat. *sdn-u-e, sdpr-i-o, sdpr-or*, 117
 TA and TAN, *τάσις, τάναιος, τείνω, tendo*, 40
 TAK or TUK, *τεκεῖν, τόκος, τυχεῖν*, 43
 ΘAF, *θάσαι, θαῦμα*, 62
 ΘΕΞ, *θέσσαντο, festus*, 25
 UG, *δυγής, αὐξανω, augeo*, 122
 US, *εἶω, αἶω, αἶος, αὐχμός, uro*, 77
 VAGH, (F)EX, 60
 VAR, *ῥάω, uereor*, 83
 VAS, *ves-tis, Fesθής*, 79
 VER, *uerbum, ἐπεῖν*, 84
 VID, *ἰδεῖν*, 52
 VOR, *ῥάω, ῥα, uereor*, 52
 VRAK, *ῥάκος*, Lat. *radix*; the oldest form BHRAG, *ῥήξις*, 252
 ΖΤ, *ζέω*; also *ζόανω* by a second step, 121
 YUG, *ῥυγόν, iugum*, 75, 293
 Roots, belong to all languages, 29
 Greek with two aspirates, 279
 must not be analysed too far, 29
 secondary, formed from primary by addition of a consonant, 40—42
 Roots, secondary, formed by a mutilated preposition, 45
 secondary, formed by addition of a final vowel, 47
 specialisation of, 50, 52
 that differ in meaning may have the same form, 85
ros, ῥση, 253
rufus, ruber, and *ἑ-ρυθ-ρός*, 242
rumpo, 86
 S Indo-Eur., 76
 S changes in Greek, 230; lost at beginning of a word, 232; between two vowels, ib.
 S changes in Latin, strong when initial, but weak when final, 237; becomes *r* between two vowels and when final, 238; is lost, 239; lost before *d* in Latin, 256; final, omitted in Latin, 260; after *l* passes into *l*, 275; passes into *r* after *r*, 275
 S retained in nominative plural of *o*-declension in Plautus, 260
Samnium for *Sab(in)ium*, 276
 Sanskrit, its age, 19, 20
 ——— its place in philology, 23
 ——— *ch, j* and *ś, 7*
σαφής, σοφός, 300
 Scanning in the 4th century after Christ, 200
 ——— apparent irregularities of, in Plautus, &c., 206, 208
 Slavonic, its history, 20
secuntur and *sequuntur*, 188
sed, originally long, 211
sella, for *sed-la*, 275
silua, 15
sim, siem, 185
sin, 214
σιός for *θεός*, 273
socer, 253
scrofa, 242
sinciput=semi-caput, 199
somnus for *sop-nus*, 276
sopor, 253
σφέ, sva, 273
 Spirants, 73; only three Indo-European, ib.
 Sporadic change, 124; in Greek vowels, 159
snusa, ννός, nurus, 69, 251
 "Star," 23
stella, stilla, 195
στεῦμα, 43
στήμων, 42
Stilatus, 253; *navis stitata*, ib.

stilocus, locus, 180

Subjunctive present, old form of, in Latin, 185

Suffixes, Indo-European, composition of, 72, 87

— not formed to denote special logical meanings, 104

Suffix, case, *a*, 212

— *-bhi*, 87

— *-bus*, 210

— entirely lost, 213

— formative, *-ad*, *-id*, 297

— *-aris* or *-alis*, 280

— *-asio*, *-asio*, *-usio*, 278

— *-afu*, 294

— *-aw*, *-ew*, *-ow*, 187

— *-dios*, 295

— *-deos*, 295

— *-dum*, *-dem*, *-do*, 296

— *-don*, *-dyn*, *-da*, 296

— *-ifw*, 295

— *-ka*, 86

— *-mant*, 73

— *-oso*, 81

— *-sco*, 103, 105

— *-ssw* and *-ttw*, 268

— *-syo*, 229

— *-tar*, 66

— *tuna*, *σύνη*, 273

— *-yant*, 76

— inflectional, *-mas*, *-mes*, *-mus*, 2

ui for *fui*, 194

σύν and *ξύν*, 251

Superlatives, Latin, instances of assimilation, 275

sus, *ūs*, 15

T Indo-European, 40; becomes *δ*, 224

T final, interchanges with *d*, 225

— dropped in Latin, 261; in ablatives and personal terminations, *ib.*; passes into *s* in Latin participles, 276; and elsewhere, 277

tarpessita (*τραπεσίτης*), 15

tendo, derivation of, by Pott, 42

τέφ-ρα, *tep-eo*, 300

τέσσαρες, 291

τετραπλασι, a sort of reduplication, 100;

τεύχω, 249, 300

Teutonic language, how subdivided, 20

TH, change of *θ* to *σ* in Laconian, 273

th, *θ* passes into *τ* in Greek formations, 279

Theokritus, as an authority for dialectical forms, 141

— reading in xxviii. 4, 268 n.

θεός, not from same root as *deus*, 25

θέσσωτο (Pind. *Nem.* v. 10), 25

"Thorney", 293 n

"Thunder", 40, 253, 310

tis, 291

tonitru, derivation of, 40, 253

tot, 214

τροπή, *τρόπαιον*, 113

tug-urium, 186

U, regular weakening in Greek, 158; weakened to *i*, 161; denoted by *ov*, in Boeotian, 158

U, its affinity for labials, as *insulto*, 171; before *nt*, *nd*, &c. especially in legal formulae, 167

U found in classical Latin where *o* was retained in the provincial, 182

ua(c)nus, 256

uariigare, why the *e* does not sink to *i*, 190

ubi, for *cubi*, 254

ὕβρις and *ὕερος*, 225

uel, 213

uenire, 254, 288

uella and *uilla*, 151

uermis, 254

uerna, 77, 238

uictrix, loss of *o*, 194, 201, 203

uinculum, 194, 201

vlós, 69, 228

uiz, 196

ὕμεις, 229

umor not *humor*, 303

ὄπερφίλος, 161

ὄσμελη, 229

V Indo-European, 78

V preserved as F in Greek, 232; becomes *v*, 233; becomes rough breathing, 234; becomes *β*, *ib.*; becomes *μ*, 235

V becomes *u* in Latin, 239; is lost, 239; does not become *m*, 240

Valesium and *Valentium*, 278

Visa, *lós*, *virus*, 80

Vowels *a*, *e*, *i*, *o*, *u*, why not the scale of strength for all languages, 178, 179 n

Vowel-assimilation, principle of, 178; where the process has been stemmed, and where altered by neighbouring sounds, 179

— caused by vowels,

- 185; when two vowels come into actual contact, 185; when two vowels are separated by a consonant, 186
- Vowel-assimilation, caused by consonants, 179; the vowel *u* produced by labials and *l*, ib.; the vowel *e* attracted by *r* and before two consonants, 182; the vowel *i* attracted to *n*, 188; and dentals, 184
- Vowel-degradation, (Latin) table of, 163
- Dissimilation, 187; less frequent in its operation—a bar to further change, 188; examples of this bar, 188, 9; further illustrations, 189, 190
- Vowels express *relativity*, 85
- Greek, how represented in Latin, 164, 169, 170, 181
- Vowel-loss, Greek, 190; how probably produced, ib.
- sometimes lost in the formative suffixes, 193
- $\xi\sigma(e)\chi\sigma\sigma$, loss of the *e*, 193
- Latin, loss of, 193
- *a*, 194
- *o*, examples, 194
- *u*, only lost before *l*, 194
- *e*, lost before *r*, 195
- *i*, the most important loss; instances from classical writers, 196; this vowel especially lost in compounds, 198; discussed, ib.
- the immediate cause of this vowel-loss discussed, 199; the results of Corssen's inquiry precarious, 199; loss in unaccented syllables, 201
- the lost vowels fell out not abruptly, 206 and *n*.
- the corruption and loss of vowels traced, 207
- cause of the loss of the final syllable, 208
- loss in quantity, 209; loss of quantity owing to the loss of the final consonant, 210; loss of quantity in originally final vowels, 212; loss of letters in the final syllable, 213; final *i* and *e* lost, 214
- Vowel-increase, quantitative, in Latin, more rarely in Greek, 117
- generally qualitative, not quantitative, 88—85
- Vowel Intensification, 109; different in different languages, ib.; most recognisable in Sanskrit, 110
- Vowels, long, in the Greek, advantage of the different symbols for, 117
- Vowel-scales; the A-scale, 113; the I-scale, 118; *I* intensified to *ai*, 119; the U-scale, 121; *U* intensified to *au*, 122
- use of, in Sanskrit, 110
- important uses of, 110; in the Gothic, 112; and in the Lithuanian, 113
- in Greek and Latin, 118
- difficulty in distinguishing the two steps of the A-scale, 114
- different methods of distinguishing the steps of the A-scale in Greek, 115
- Vowel-system, contrast between the Greek and the Latin, 163; examples from Corssen, 164
- (Greek) superior to the Latin, 215
- (Latin) peculiar weakness of, 162
- Vowels, weakness of, in formative syllables, 164; illustrative examples, 164, 5; analogy in the Umbrian, pointed out by Corssen, 166; in final syllables the original vowel commonly sinks to *e*; explained and illustrated, 167, 8
- weakened in composition, 169; the first member of the compound, ib.; where the second member is weakened, 170; examples, 170—172; exceptions, 172
- Latin weakened in reduplicated forms, 173; of the reduplicated syllable, ib.; of the radical syllable, 174
- Vowel-change, modified by external cause, 176; hardly at all in Greek, ib.; but frequently in Latin, 177; results, ib.
- Vowel-variation, (*A, e, o*), application of, 134; exemplified, 134, 5; gain of the Greek language hereby, 135
- (*a, e, o*) originally phonetic, 115; illustrated by Prof. Curtius, ib. *n*.
- Weak articulation, its character and tendency, 123—126
- Whitney, Professor, "The Study of Language," 4

Y Indo-European, 75

Y, guttural sound of, in Greek, 230;
early lost, 229; changed to *ʃ* by pa-
rasitic *δ*, 292

Y becomes *i* in Latin, 286; is lost, 237
ya, *δs*, 75

Year, the divisions of, various names
and their derivations, 89

ʃ, origin of, in Greek, 274

Z, old Latin, 128, 239; afterwards bor-
rowed, 15, 128; represented by *s* and
ss in Plautus, 239

Zá for *δá*, 293; as a prefix, 294

Záκυρθος, 293

Záω, 292

Zend, the speech of the old Persians,
19

Zeús, 293

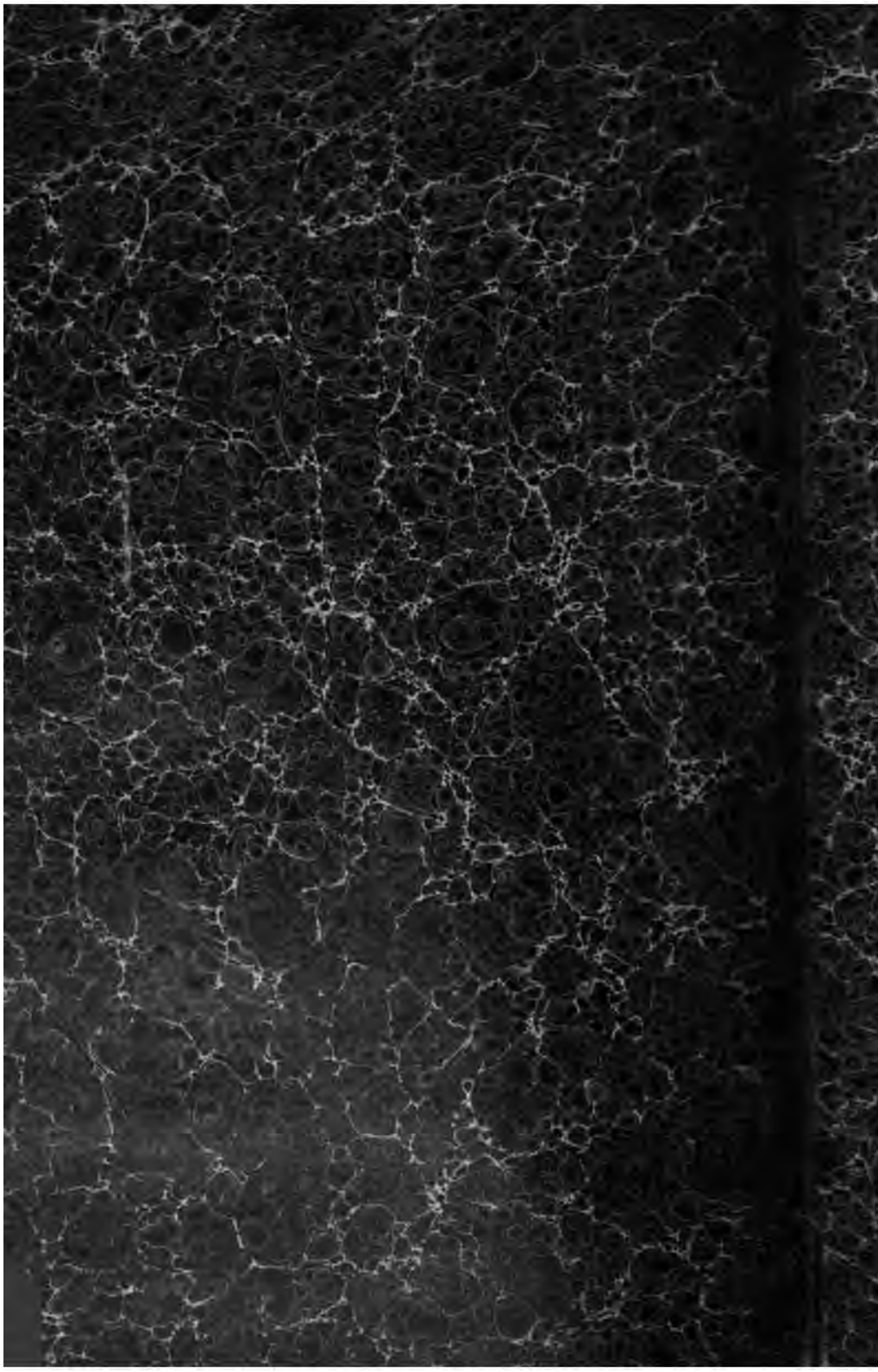
ζηύα, 294

Zωμός and *ius*, 294

Zυγών, 75, 293, 294; *δυγών*, 295









HW 2QIY S

APR 8 1881

AUG 22 1885

OCT 8 1885

JAN 7 1888

DUE MAY 6 1926

DUE MAY 3 1930

DUE JUL 1 1946

DUE JUL 12 1946

~~DUE JUL 12 1946~~

